



6712-01

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 25

[IB DOCKET NO. 12-267; FCC 13-111]

Comprehensive Review of Licensing and Operating Rules for Satellite Services

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: The Federal Communications Commission (FCC) has adopted many changes in its rules, which governs licensing and operation of space stations and earth stations. Collectively, the changes adopted in this document will streamline the Commission's regulations, fostering more rapid deployment of services to the public, greater investment, and new innovations in satellite services.

DATES: The rules in this document contain information collection requirements that have not been approved by Office of Management and Budget. The Commission will publish a document in the Federal Register announcing such OMB approval, the effective date of all of the rule amendments adopted in the Report and Order, and the approval date of the incorporation by reference of a certain publication listed in the rule.

FOR FURTHER INFORMATION CONTACT: William Bell (202) 418-0741, Satellite Division, International Bureau, Federal Communications Commission, Washington, DC 20554. For additional information concerning the information collection(s) contained in this document, contact Leslie Smith at 202-418-0217, or via the Internet at Leslie.Smith@fcc.gov.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's Report and Order in IB Docket No. 12-267, FCC 13-111, adopted and released on August 9, 2013. The full text of the Report and Order is available for public inspection and copying during regular business hours at the FCC Reference Information Center, Portals II, 445 12th Street, SW., Room CY-A257, Washington, DC 20554. This document may also be purchased from the Commission's duplicating contractor, Best Copy and Printing, Inc., Portals II, 445 12th Street, SW., Room CY-B402, Washington, DC 20554, telephone 202-488-5300, facsimile 202-488-5563, or via e-mail FCC@BCPIWEB.com. The full text may also be downloaded at <http://apps.fcc.gov/ecfs/document/view?id=7520937207> <http://www.fcc.gov>. Alternative formats are available to person with disabilities by sending an e-mail to fcc504@fcc.gov or calling the Consider & Governmental Affairs Bureau at 202-418-0530 (voice), or 202-418-0432 (tty).

Synopsis

1. In September 2012, the Commission issued a Notice of Proposed Rulemaking (NPRM), 77 FR 67172, November 8, 2012 proposing extensive changes in part 25 of its rules, which governs licensing and operation of space stations and earth stations for the provision of satellite communication services. Sixteen parties filed comments in response to the NPRM and 10 parties filed reply comments. In this Report and Order, we adopt most of the changes proposed previously and discuss recommendations for further changes. In all, we revise over 150 rule provisions in part 25 to better reflect evolving technology; eliminate unnecessary information filing requirements for licensees and applicants; eliminate unnecessary technical restrictions; reorganize existing requirements; eliminate redundancy and unnecessary verbiage; clarify vague, confusing, or ambiguous provisions; resolve inconsistencies; and

codify existing policies to improve transparency. These changes will better enable the Commission to assess the interference potential of proposed operations; afford more operational flexibility for satellite licensees; enable applicants and licensees to conserve time, effort, and expense in preparing applications and reports; ease administrative burdens for the Commission; and make the rules easier to understand.

Paperwork Reduction Act

2. This document contains new or modified information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. It will be submitted to the Office of Management and Budget (OMB) for review under Section 3507(d) of the PRA. OMB, the general public, and other Federal agencies are invited to comment on the new or modified information collection requirements contained in this proceeding.

3. Pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, see 44 U.S.C. 3506(c)(4), we previously sought specific comment on how the Commission might further reduce the information collection burden for small business concerns with fewer than 25 employees. We received no comments on this issue. We have assessed the effects of the revisions adopted that might impose information collection burdens on small business concerns, and find that the impact on businesses with fewer than 25 employees will be an overall reduction in burden. The amendments adopted in this Report and Order eliminate unnecessary information filing requirements for licensees and applicants; eliminate unnecessary technical restrictions and enable applicants and licensees to conserve time, effort, and expense in preparing applications and reports. Overall, these changes may have a greater positive impact on small business entities with more limited resources.

Congressional Review Act

4. The Commission will send copies of this Report and Order to Congress and the General Accountability Office pursuant to the Congressional Review Act, 5 U.S.C. 801(a)(1)(A), and will send a copy including the final regulatory flexibility act analysis 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. (1981).

Effective Date

5. While not all the revisions to part 25 adopted in this order require approval by OMB under the PRA, many do. These requirements cannot go into effect until OMB has approved the information collection requirements and the Commission has published a notice announcing the effective date of those requirements. To avoid confusion, all rule changes adopted in this Report and Order will become effective on the same date. The International Bureau will issue a public notice announcing the effective date for all of the rules adopted in this Report and Order.

Final Regulatory Flexibility Analysis

6. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),¹ an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the Notice of Proposed Rulemaking in the Matter of Comprehensive Review of Licensing and Operating Rules for Satellite Services.² The Commission sought written public comment on the proposals in the *NPRM*, including comment on the IRFA. No comments were received on the IRFA. This Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.³

Need for, and Objectives of, the Proposed Rules

7. This Order adopts comprehensive changes to part 25 of the Commission's rules, which governs licensing and operation of space stations and earth stations for the provision of satellite

¹ See 5 U.S.C. 603. The RFA, *see* 5 U.S.C. 601 – 612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

² Comprehensive Review of Licensing and Operating Rules for Satellite Services, IB Docket No. 12-267, Notice of Proposed Rulemaking, 27 FCC Rcd 11619 (2012) (*Notice*) at 11699 (Appendix B).

³ See 5 U.S.C. 604.

communication services.⁴ We revise the rules to better reflect evolving technology; eliminate unnecessary information filing requirements for licensees and applicants; eliminate unnecessary technical restrictions; reorganize existing requirements; eliminate redundancy and unnecessary verbiage; clarify vague, confusing, or ambiguous provisions; resolve inconsistencies; and codify existing policies to improve transparency. These changes will better enable the Commission to assess the interference potential of proposed operations; afford more operational flexibility for satellite licensees; enable applicants and licensees to conserve time, effort, and expense in preparing applications and reports; ease administrative burdens for the Commission; and make the rules easier to understand. As a result, we anticipate that these rule changes will facilitate greater investment and further innovation in satellite services and more rapid deployment of new satellite services to the public.

8. This Order revises multiple sections of part 25 of the rules. Specifically, it revises the rules to:

- Update the information requirements for space and earth station applications to reflect evolving technology and eliminate information that is no longer needed.
- Consolidate annual reporting requirements and delete reporting requirements that are not necessary; reinforce reporting requirements for 24/7 contact points in cases of interference or emergency situations.
- Increase the number of earth station applications eligible for routine processing.
- Clarify the criteria for using Form 312EZ and related autogrant procedure for earth station applications.
- Eliminate certain restrictive elements of rules related to transponder saturation flux density settability requirements and cross-polarization isolation requirements.

⁴ 47 CFR part 25, Satellite Communications.

- Harmonize rules concerning rain fade mitigation and eliminate certain mandated requirements.
- Clarify the requirements for routine processing of 12/14 GHz Very Small Aperture Terminals (VSAT) networks.
- Allow earth station applicants to certify antenna performance rather than requiring them to submit a certificate from the manufacturer.
- Adopt the industry standard for Automatic Transmitter Identification System (ATIS) signals for digital video uplinks for temporary-fixed earth stations.
- Relax telemetry, tracking, and command (TT&C) reporting requirements.
- Consolidate use restrictions and labeling requirements for MSS and ATC terminals aboard civil aircraft.
- Codify Commission practice of granting a single earth station license covering multiple antennas located close to each other.
- Update, improve, and consolidate definitions.

Summary of Significant Issues Raised by Public Comments in Response to the IRFA

9. No party filing comments in this proceeding responded to the IRFA, and no party filing comments in this proceeding otherwise argued that the policies and rules proposed in this proceeding would have a significant economic impact on a substantial number of small entities. The Commission has, nonetheless, considered any potential significant economic impact that the rule changes may have on the small entities which are impacted. On balance, the Commission believes that the economic impact on small entities will be positive rather than negative, and that the rule changes move to streamline the part 25 requirements.

Response to Comments by the Chief Counsel for Advocacy of the Small Business

Administration

10. Pursuant to the Small Business Jobs Act of 2010, the Commission is required to respond to any comments filed by the Chief Counsel for Advocacy of the Small Business Administration, and to provide a detailed statement of any change made to the proposed rules as a result of those comments. The Chief Counsel did not file any comments in response to the proposed rules in this proceeding.

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

11. 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 the rules adopted herein.⁵ The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."⁶ In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.⁷ 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).⁸ Below, we describe and estimate the number of small entity licensees that may be affected by the adopted rules.

Satellite Telecommunications and All Other Telecommunications

12. The rules adopted in this Order will affect some providers of satellite telecommunications services, if adopted. Satellite telecommunications service providers include satellite and earth station operators. Since 2007, the SBA has recognized two census categories for satellite telecommunications

⁵ 5 U.S.C. 604(a)(3).

⁶ 5 U.S.C. 601(6).

⁷ 5 U.S.C. 601(3) (incorporating by reference the definition of "small business concern" in 15 U.S.C. 632). Pursuant to the RFA, the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register." 5 U.S.C. 601(3).

⁸ Small Business Act, 15 U.S.C. 632 (1996).

firms: “Satellite Telecommunications” and “Other Telecommunications.” Under the “Satellite Telecommunications” category, a business is considered small if it had \$15 million or less in average annual receipts.⁹ Under the “Other Telecommunications” category, a business is considered small if it had \$25 million or less in average annual receipts.¹⁰

13. The first category of Satellite Telecommunications “comprises establishments primarily engaged in providing point-to-point 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.”¹¹ For this category, Census Bureau data for 2007 show that there were a total of 512 satellite communications firms that operated for the entire year.¹² Of this total, 464 firms had annual receipts of under \$10 million, and 18 firms had receipts of \$10 million to \$24,999,999.¹³

14. The second category of Other Telecommunications is comprised of entities “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.”¹⁴ For this category, Census Bureau data for 2007 show that there were a total of 2,383 firms that operated for the

⁹ See 13 CFR 121.201, NAICS code 517410.

¹⁰ See 13 CFR 121.201, NAICS code 517919.

¹¹ U.S. Census Bureau, 2007 NAICS Definitions, “517410 Satellite Telecommunications.”

¹² See http://factfinder.census.gov/servlet/IBQTable?_bm=y&-geo_id=&-_skip=900&-ds_name=EC0751SSSZ4&-_lang=en.

¹³ *Id.*

¹⁴ U.S. Census Bureau, 2007 NAICS Definitions, “517919 Other Telecommunications,” <http://www.census.gov/naics/2007/def/ND517919.HTM>.

entire year.¹⁵ Of this total, 2,346 firms had annual receipts of under \$25 million.¹⁶ We anticipate that some of these “Other Telecommunications firms,” which are small entities, are earth station applicants/licenseses that might be affected if our proposed rule changes are adopted.

15. We anticipate that our proposed rule changes may have an impact on earth 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 will be affected by our proposed actions.

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

16. The rule changes adopted in this Order will affect reporting, recordkeeping and other compliance requirements for earth and space station operators. Most proposed changes, as described below, will decrease the regulatory burden for all businesses operators in the affected industries, especially firms that hold licenses to operate earth stations. Therefore, small entities in these industries will experience a decrease in regulatory burden of reporting, recordkeeping, and compliance as a result of most of the changes adopted in this Order.

17. First, the revisions simplify information collections in applications for earth station licensees, and increase the number of earth station applications eligible for routine processing. For example, we extend eligibility to use the simplified Form 312EZ and the autogrant procedure for routine applications for 20/30 GHz earth stations that will communicate via geostationary satellites previously coordinated

¹⁵ See 13 CFR 121.201, NAICS code 517919.

¹⁶ U.S. Census Bureau, 2007 Economic Census, Subject Series: Information, Table 5, “Establishment and Firm Size: Employment Size of Firms for the United States: 2007 NAICS Code 517919” (issued Nov. 2010).

with Federal-government systems pursuant to Footnote US334.¹⁷ The revised rules further allow routine licensing of earth stations transmitting analog command signals of up to 1 megahertz in bandwidth. The revision also eliminates requirements to submit certain technical information in space station applications, to provide technical interference analysis, and to submit information to both the International Bureau and the Columbia Operations Center. These changes reduce the burden of compliance.

18. We codify Commission practice of granting a single earth station license covering multiple antennas located close to each other. Additionally, we revise the rules to allow earth station applicants to certify antenna performance, rather than having to submit a certificate from the manufacturer. We also clarify that routine blanket earth station licensing requirements apply to individual earth station applications. We clarify the requirements for routine processing of 12/14 GHz Very Small Aperture Terminals (VSAT) networks. Finally, we adopt the industry-developed standard for Automatic Transmitter Identification System (ATIS) signals for digital video uplinks, while allowing analog uplink operators a choice of methods for ATIS signals.

19. The revisions also streamline and reorganize the rules to facilitate improved compliance. For example, we replace the various band-specific use restrictions and labeling requirements for Mobile-Satellite Service transceivers or Ancillary Terrestrial Component (ATC) terminals aboard civil aircraft with a uniform aircraft-use restriction and associated warning-label requirement. We also combine definitions currently scattered throughout part 25 into a consolidated definitions section, we add definitions for previously undefined terms, and we clarify the text of many definitions and standardize their use. Throughout part 25, we improve the language and organization of the rules to ease compliance.

20. Together, these changes reduce the reporting and recordkeeping burden, and make the rules easier to understand and follow. These changes will decrease compliance costs for all businesses in the affected industries, including the small entities regulated under part 25.

¹⁷ 47 CFR 2.106, Footnote US334 requires coordination between Federal space and terrestrial systems and non-Federal space and terrestrial systems operating in certain frequency bands.

Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered

21. 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.”¹⁸

22. The Commission is aware that some of the revisions may impact small entities. The *NPRM* sought comment from all interested parties, and small entities were encouraged to bring to the Commission’s attention any specific concerns they may have with the proposals outlined in the *NPRM*. No commenters raised any specific concerns about the impact of the revisions on small entities. This order adopts rule revisions to modernize the rules and advance the satellite industry. The revisions eliminate unnecessary technical and information filing requirements, and reorganize and simplify existing requirements to make them easier to understand and follow. All of these revisions lessen the burden of compliance on small entities with more limited resources than larger entities.

23. The changes for earth station licensing will create more opportunities for routine licensing and allow for more liberal blanket licensing of earth stations. Each of these changes will lessen the burden in the licensing process. Earth station operators may experience an additional burden from reinforced reporting requirements for 24/7 contact points for interference or emergency situations, a burden that was always required, but is more clearly articulated. However, the revisions also allow this requirement to replace a requirement for more specific TT&C information, so some of that additional burden is offset. Earth station operators may also experience increased burden from revisions to rules

concerning ATIS requirements. Specifically, the transition to the newly adopted ATIS standard could impose burdens. However, the uniform ATIS format will also reduce the costs, by modernizing the standard governing ATIS signals, making it appropriate for more spectrum-efficient digital transmissions, and by standardizing ATIS signals and reducing the burden imposed by having to cope with multiple formats. Thus, the proposed revisions will ultimately lead to benefits for small earth station operators in the long-term.

24. **Report to Congress:** The Commission will send a copy of this Report and Order, including this FRFA, in a report to be sent to Congress pursuant to the Congressional Review Act.¹⁹ In addition, the Commission will send a copy of this Order, including this FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of this Report and Order and FRFA (or summaries thereof) will also be published in the Federal Register.²⁰

Ordering Clauses

25. IT IS ORDERED, pursuant to Sections 4(i), 7(a), 11, 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), 161, 303(c), 303(f), 303(g), and 303(r), that this Report and Order IS ADOPTED, the policies, rules and requirements discussed herein ARE ADOPTED, and part 25 of the Commission's rules IS AMENDED as set forth in Appendix B.

26. IT IS FURTHER ORDERED that all policies, rules, rule parts and requirements adopted or amended herein, including all rules that contain new information collection requirements that require approval by the Office of Management and Budget under the Paperwork Reduction Act, SHALL BE EFFECTIVE upon the same date, which will be designated in a document published in the Federal Register. That Public Notice will not be published until the Office of Management and Budget (OMB) has approved those rule revisions adopted in this Report and Order that impose new or changed

¹⁸ 5 U.S.C. 603(c)(1)-(c)(4).

¹⁹ See 5 U.S.C. 801(a)(1)(A).

²⁰ See 5 U.S.C. 604(b).

information collection requirements, and such approval will be noted in that Public Notice.

27. IT IS FURTHER ORDERED that the International Bureau is delegated authority to issue documents consistent with this Report and Order.

28. IT IS FURTHER ORDERED that the International Bureau will issue a document announcing the effective date for all of the changes adopted in this Report and Order.

29. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, will send a copy of this Order, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

List of Subjects in 47 CFR Part 25

Automatic transmitter identification, Communications common carriers, Definitions, Earth stations, Incorporation by reference, Reporting, Space stations.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch,
Secretary.

For the reasons discussed in the preamble, the Federal Communications Commission amends 47 CFR part 25 as follows:

PART 25 -- SATELLITE COMMUNICATIONS

1. The authority citation for part 25 is revised to read as follows:

Authority: Interprets or applies sections 4, 301, 302, 303, 307, 309, 319, 332, 705, and 721 of the Communications Act, as amended, 47 U.S.C. sections 154, 301, 302, 303, 307, 309, 319, 332, 605, and 721, unless otherwise noted.

2. Revise § 25.103 to read as follows:

§ 25.103 Definitions.

Terms with definitions including the “(RR)” designation are defined in the same way in § 2.1 of this chapter and in the Radio Regulations of the International Telecommunication Union.

1.5/1.6 GHz Mobile-Satellite Service. Mobile-Satellite Service provided in any portion of the 1525-1559 MHz space-to-Earth band and the 1626.5-1660.5 MHz Earth-to-space band, which are referred to in this rule part as the “1.5/1.6 GHz MSS bands.”

1.6/2.4 GHz Mobile-Satellite Service. A Mobile-Satellite Service that operates in the 1610-1626.5 MHz and 2483.5-2500 MHz bands, or in any portion thereof.

2 GHz Mobile-Satellite Service. A Mobile-Satellite Service that operates in the 2000-2020 MHz and 2180-2200 MHz bands, or in any portion thereof.

12/14 GHz bands. The 11.7-12.2 GHz Fixed-Satellite Service space-to-Earth band and the 14.0-14.5 GHz Fixed-Satellite Service Earth-to-space band.

17/24 GHz Broadcasting-Satellite Service (17/24 GHz BSS). A radiocommunication service involving transmission from one or more feeder-link earth stations to other earth stations via geostationary satellites, in the 17.3-17.7 GHz (space-to-Earth) (domestic allocation), 17.3-17.8 GHz (space-to-Earth) (international allocation) and 24.75-25.25 GHz (Earth-to-space) bands. For purposes of the application processing provisions of this part, the 17/24 GHz BSS is a GSO-like service. Unless specifically stated otherwise, 17/24 GHz BSS systems are subject to the rules in this part applicable to FSS.

20/30 GHz bands. The 18.3-20.2 GHz Fixed-Satellite Service space-to-Earth band and the 28.35-30.0 GHz Fixed-Satellite Service Earth-to-space band.

Ancillary Terrestrial Component (ATC). A terrestrial communications network used in conjunction with a qualifying satellite network system authorized pursuant to these rules and the conditions established in the Orders issued in IB Docket No. 01-185, Flexibility for Delivery of Communications by Mobile-Satellite Service Providers in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Band.

Ancillary Terrestrial Component (ATC) base station. A terrestrial fixed facility used to transmit communications to or receive communications from one or more ancillary terrestrial component mobile terminals.

Ancillary Terrestrial Component (ATC) mobile terminal. A terrestrial mobile facility used to transmit communications to or receive communications from an ancillary terrestrial component base station or a space station.

Blanket license. A license for multiple fixed or mobile earth stations or SDARS terrestrial repeaters that may be operated anywhere within a geographic area specified in the license, or for multiple non-geostationary-orbit space stations.

C band. As used in this part, the terms “C band” and “conventional C band” refer to the 3700-4200 MHz (space-to-Earth) and 5925-6425 MHz (Earth-to-space) bands. These paired bands are allocated to the Fixed-Satellite Service and are also referred to as the 4/6 GHz bands.

Coordination distance. When determining the need for coordination, the distance on a given azimuth from an earth station sharing the same frequency band with terrestrial stations, or from a transmitting earth station sharing the same bidirectionally allocated frequency band with receiving earth stations, beyond which the level of permissible interference will not be exceeded and coordination is therefore not required. (RR)

Direct Broadcast Satellite (DBS) Service. A radiocommunication service in which signals transmitted or retransmitted by Broadcasting-Satellite Service space stations in the 12.2-12.7 GHz band are intended for direct reception by subscribers or the general public. For the purposes of this definition, the term direct reception includes individual reception and community reception.

Earth station. A station located either on the Earth's surface or within the major portion of the Earth's atmosphere intended for communication:

- (1) With one or more space stations; or
- (2) With one or more stations of the same kind by means of one or more reflecting satellites or other objects in space. (RR)

Earth Station on Vessel (ESV). An earth station onboard a craft designed for traveling on water, receiving from and transmitting to geostationary-orbit Fixed-Satellite Service space stations.

Earth Stations Aboard Aircraft (ESAA). Earth stations operating aboard aircraft that receive from and transmit to geostationary-orbit Fixed-Satellite Service space stations and operate within the United States pursuant to the requirements in § 25.227.

Emergency Call Center. A facility that subscribers of satellite commercial mobile radio services call when in need of emergency assistance by dialing "911" on their mobile earth station terminals.

Equivalent diameter. When circular aperture reflector antennas are employed, the size of the antenna is generally expressed as the diameter of the antenna's main reflector. When non-reflector or non-circular-aperture antennas are employed, the equivalent diameter is the diameter of a hypothetical circular-aperture antenna with the same aperture area as the actual antenna. For example, an elliptical aperture antenna with major axis a and minor axis b will have an equivalent diameter of $[a \times b]^{1/2}$. A rectangular aperture antenna with length l and width w will have an equivalent diameter of $[4(l \times w)/\pi]^{1/2}$.

Equivalent Power Flux Density (EPFD). The sum of the power flux densities produced at a geostationary-orbit receive earth or space station on the Earth's surface or in the geostationary orbit, as appropriate, by all the transmit stations within a non-geostationary-orbit Fixed-Satellite Service system, taking into account the off-axis discrimination of a reference receiving antenna assumed to be pointing in its nominal direction. The equivalent power flux density, in dB(W/m²) in the reference bandwidth, is calculated using the following formula:

$$10 \log_{10} \left[\sum_{i=1}^{N_a} 10^{\frac{P_i}{10}} \frac{G_T(\theta_i)}{4\pi d_i^2} \cdot \frac{G_R(\phi_i)}{G_{R,max}} \right]$$

Where:

N_a is the number of transmit stations in the non-geostationary orbit system that are visible from the GSO receive station considered on the Earth's surface or in the geostationary orbit, as appropriate;

i is the index of the transmit station considered in the non-geostationary orbit system;

P_i is the RF power at the input of the antenna of the transmit station, considered in the non-geostationary orbit system in dBW in the reference bandwidth;

θ_i is the off-axis angle between the boresight of the transmit station considered in the non-geostationary orbit system and the direction of the GSO receive station;

$G_T(\theta_i)$ is the transmit antenna gain (as a ratio) of the station considered in the non-geostationary orbit system in the direction of the GSO receive station;

d_i is the distance in meters between the transmit station considered in the non-geostationary orbit system and the GSO receive station;

ϕ_i is the off-axis angle between the boresight of the antenna of the GSO receive station and the direction of the i th transmit station considered in the non-geostationary orbit system;

$G_r(\phi_i)$ is the receive antenna gain (as a ratio) of the GSO receive station in the direction of the i th transmit station considered in the non-geostationary orbit system;

$G_{r,max}$ is the maximum gain (as a ratio) of the antenna of the GSO receive station.

Extended Ku band. As used in this part, the term “extended Ku band” refers to the 10.7-11.7 GHz (space-to-Earth), 12.75-13.25 GHz (Earth-to-space), and 13.75-14.0 GHz (Earth-to-space) Fixed-Satellite Service bands.

Feeder link. A radio link from a fixed earth station at a given location to a space station, or vice versa, conveying information for a space radiocommunication service other than the Fixed-Satellite Service. The given location may be at a specified fixed point or at any fixed point within specified areas. (RR)

Fixed earth station. An earth station intended to be used at a fixed position. The position may be a specified fixed point or any fixed point within a specified area.

Fixed-Satellite Service (FSS). A radiocommunication service between earth stations at given positions, when one or more satellites are used; the given position may be a specified fixed point or any fixed point within specified areas; in some cases this service includes satellite-to-satellite links, which may also be operated in the inter-satellite service; the Fixed-Satellite Service may also include feeder links of other space radiocommunication services. (RR)

Geostationary-orbit (GSO) satellite. A geosynchronous satellite whose circular and direct orbit lies in the plane of the Earth’s equator and which thus remains fixed relative to the Earth; by extension, a geosynchronous satellite which remains approximately fixed relative to the Earth.

Inter-Satellite Service. A radiocommunication service providing links between artificial earth satellites.

Ku band. In this rule part, the terms “Ku band” and “conventional Ku band” refer to the 11.7-12.2 GHz (space-to-Earth) and 14.0-14.5 GHz (Earth-to-space) bands. These paired bands are allocated to the Fixed-Satellite Service and are also referred to as the 12/14 GHz bands.

Land earth station. An earth station in the Fixed-Satellite Service or, in some cases, in the Mobile-Satellite Service, located at a specified fixed point or within a specified area on land to provide a feeder link for the Mobile-Satellite Service. (RR)

Land Mobile Earth Station. A mobile earth station in the land mobile-satellite service capable of surface movement within the geographical limits of a country or continent. (RR)

Mobile Earth Station. An earth station in the Mobile-Satellite Service intended to be used while in motion or during halts at unspecified points. (RR)

Mobile-Satellite Service (MSS). (1) A radiocommunication service:

(i) Between mobile earth stations and one or more space stations, or between space stations used by this service; or

(ii) Between mobile earth stations, by means of one or more space stations.

(2) This service may also include feeder links necessary for its operation. (RR)

NGSO. Non-geostationary orbit.

NGSO FSS gateway earth station. An earth station complex consisting of multiple interconnecting earth station antennas supporting the communication routing and switching functions of a non-geostationary-orbit Fixed-Satellite Service system. A gateway earth station in the NGSO FSS:

(1) Does not originate or terminate radiocommunication traffic, but interconnects multiple non-collocated user earth stations operating in frequency bands other than designated gateway bands,

through a satellite with other primary terrestrial networks, such as the public switched telephone network and/or Internet networks.

(2) Is not for the exclusive use of any customer.

(3) May also be used for telemetry, tracking, and command transmissions for the NGSO FSS system.

(4) May include multiple antennas, each required to meet the antenna performance standard in § 25.209(h), located within an area of one second latitude by one second longitude. Additional antennas located outside such area will be considered as a separate gateway earth station complex for purposes of coordination with terrestrial services.

Non-Voice, Non-Geostationary (NVNG) Mobile-Satellite Service. A Mobile-Satellite Service reserved for use by non-geostationary satellites in the provision of non-voice communications which may include satellite links between land earth stations at fixed locations.

Permitted Space Station List. A list of all U.S.-licensed geostationary-orbit space stations providing Fixed-Satellite Service in the conventional C band, the conventional Ku band, or the 18.3-18.8 GHz, 19.7-20.2 GHz, 28.35-28.6 GHz, and 29.25-30.0 GHz bands, as well as non-U.S.-licensed geostationary-orbit space stations approved for U.S. market access to provide Fixed-Satellite Service in the conventional C band, conventional Ku band, or 18.3-18.8 GHz, 19.7-20.2 GHz, 28.35-28.6 GHz, and 29.25-30.0 GHz bands.

Power flux density (PFD). The amount of power flow through a unit area within a unit bandwidth. The units of power flux density are those of power spectral density per unit area, namely watts per hertz per square meter. These units are generally expressed in decibel form as dB(W/Hz/m²), dB(W/m²) in a 4 kHz band, or dB(W/m²) in a 1 MHz band.

Power Spectral Density (PSD). The amount of an emission's transmitted carrier power applied at the antenna input falling within the stated bandwidth. The units of power spectral density are

watts per hertz and are generally expressed in decibel form as dB(W/Hz) when measured in a 1 Hz bandwidth, dB(W/4kHz) when measured in a 4 kHz bandwidth, or dB(W/MHz) when measured in a 1 MHz bandwidth.

Protection areas. The geographic regions on the surface of the Earth where U.S. Department of Defense (DoD) meteorological satellite systems or National Oceanic and Atmospheric Administration (NOAA) meteorological satellite systems, or both such systems, are receiving signals from low earth orbiting satellites. Also, areas around 20/30 GHz NGSO MSS feeder-link earth stations in the 1.6/2.4 GHz Mobile-Satellite Service determined in the manner specified in § 25.203(j).

Radiodetermination-Satellite Service. A radiocommunication service for the purpose of radiodetermination involving the use of one or more space stations. This service may also include feeder links necessary for its own operation. (RR)

Routine processing or licensing. Expedited processing of unopposed applications for Fixed-Satellite Service earth stations communicating via geostationary-orbit satellites that satisfy the criteria in § 25.134(a), § 25.134 (g), § 25.138(a), § 25.211(d), § 25.212(c), § 25.212(d), § 25.212(f), § 25.218, or § 25.223(b), include all required information, are consistent with all Commission rules, and do not raise any policy issues. Some, but not all, routine earth station applications are eligible for an autogrant procedure under § 25.115(a)(4).

Satellite Digital Audio Radio Service (SDARS). A radiocommunication service in which audio programming is digitally transmitted by one or more space stations directly to fixed, mobile, and/or portable stations, and which may involve complementary repeating terrestrial transmitters and telemetry, tracking and command facilities.

Satellite system. A space system using one or more artificial earth satellites. (RR)

Selected assignment. A spectrum assignment voluntarily identified by a 2 GHz MSS licensee at the time that the licensee's first 2 GHz Mobile-Satellite Service satellite reaches its intended orbit.

Shapeable antenna beam. A satellite transmit or receive antenna beam, the gain pattern of which can be modified at any time without physically repositioning a satellite antenna reflector.

Spacecraft. A man-made vehicle which is intended to go beyond the major portion of the Earth's atmosphere. (RR)

Space radiocommunication. Any radiocommunication involving the use of one or more space stations or the use of one or more reflecting satellites or other objects in space.

Space station. A station located on an object which is beyond, is intended to go beyond, or has been beyond, the major portion of the Earth's atmosphere. (RR)

Space system. Any group of cooperating earth stations and/or space stations employing space radiocommunication for specific purposes. (RR)

Terrestrial radiocommunication. Any radiocommunication other than space radiocommunication or radio astronomy. (RR)

Terrestrial station. A station effecting terrestrial radiocommunication.

Vehicle-Mounted Earth Station (VMES). An earth station, operating from a motorized vehicle that travels primarily on land, that receives from and transmits to geostationary orbit Fixed-Satellite Service space stations and operates within the United States pursuant to the requirements set out in § 25.226.

3. In § 25.111, revise the section heading and paragraph (b) and add paragraph (d) to read as follows:

§ 25.111 Additional information and ITU cost recovery.

* * * * *

(b) Applicants and licensees of radio stations governed by this part must provide the Commission with the information required for Advance Publication, Coordination, and Notification of frequency assignment filings, including due diligence information, pursuant to the Radio Regulations of the International Telecommunication Union. No protection from interference caused by radio stations authorized by other Administrations is guaranteed unless ITU procedures are timely completed or, with respect to individual Administrations, coordination agreements are successfully completed. A license for which such procedures have not been completed may be subject to additional terms and conditions required for coordination of the frequency assignments with other Administrations.

* * * * *

(d) The Commission will submit the information required by paragraphs (b) or (c) of this section to the ITU only after the applicant or licensee has submitted a signed declaration that it unconditionally accepts all consequent ITU cost-recovery responsibility. The declaration must be electronically filed in the “Other Filings” tab of the application file in the IBFS database, and a paper copy must be mailed to the International Bureau, Satellite Division. The filing must reference the call sign and name of the international satellite system and include the name(s), address(es), email address(es), and telephone and fax number(s) of a contact person, or persons, responsible for cost recovery inquiries and ITU correspondence and filings. Supplements must be filed as necessary to apprise the Commission of changes in the contact information until the ITU cost-recovery responsibility is discharged. The applicant or licensee must remit payment of any resultant cost-recovery fee to the ITU by the due date specified in the ITU invoice, unless an appeal is pending with the ITU that was filed prior to the due date. A license granted in reliance on such a commitment will be conditioned upon discharge of any such cost-recovery obligation.

Where an applicant or licensee has an overdue ITU cost-recovery fee and does not have an appeal pending with the ITU, the Commission will dismiss any application associated with that satellite network.

4. In § 25.112, add paragraph (a)(4), to read as follows:

§ 25.112 Defective applications.

(a) * * *

(4) The application is identical to a pending application that was timely filed pursuant to § 25.157 or § 25.158.

* * * * *

5. In § 25.113, revise the section heading and paragraph (a), add paragraph (b), remove and reserve paragraphs (c), (d), and (e), and revise paragraphs (f) and (h) to read as follows:

§ 25.113 Station construction, launch authority, and operation of spare satellites.

(a) Construction permits are not required for earth stations. Construction of such stations may commence prior to grant of an earth station license at the applicant's own risk, subject to the requirements of § 1.1312 and part 17 of this chapter concerning environmental processing and construction, marking, and lighting of antenna structures.

(b) Construction permits are not required for Ancillary Terrestrial Component (ATC) stations. A party with licenses issued under this part for launch and operation of 1.5/1.6 GHz, 1.6/2.4 GHz, or 2 GHz Mobile-Satellite Service space stations and operation of associated ATC facilities may commence construction of ATC base stations at its own risk after commencing physical construction of the space stations, subject to the requirements of § 1.1312 and part 17 of this

chapter. Such an MSS/ATC licensee may also conduct equipment tests for the purpose of making adjustments and measurements necessary to ensure compliance with the terms of its ATC license, applicable rules in this part, and technical design requirements. Prior to commencing such construction and pre-operational testing, an MSS/ATC licensee must notify the Commission of the commencement of physical satellite construction and the licensee's intention to construct and test ATC facilities. This notification must be filed electronically in the appropriate file in the International Bureau Filing System database. The notification must specify the frequencies the licensee proposes to use for pre-operational testing and the name, address, and telephone number of a representative for the reporting and mitigation of any interference resulting from such testing. MSS/ATC licensees engaging in pre-operational testing must comply with §§ 5.83, 5.85(c), 5.111, and 5.117 of this chapter regarding experimental operations. An MSS/ATC licensee may not offer ATC service to the public for compensation during pre-operational testing.

* * * * *

(f) Construction permits are not required for U.S.-licensed space stations, except for stations that the applicant proposes to operate to disseminate program content to be received by the public at large, rather than only by subscribers. Construction of a station for which a construction permit is not required may commence, at the applicant's own risk, prior to grant of a license. Before commencing pre-grant construction, however, an applicant must notify the Commission in writing that it plans to begin construction at its own risk.

* * * * *

(h) Operators of NGSO satellite systems licensed by the Commission need not file separate applications to operate technically identical in-orbit spares launched pursuant to a blanket license granted under § 25.114(a). However, the licensee must notify the Commission within 30 days of bringing the in-orbit spare into operation and certify that its activation has not increased the number of operating space stations above the number previously authorized and that the licensee

has determined by measurement that the activated spare is operating within the terms of the license.

§25.114 [Amended]

6. Amend §25.114 as follows:

- a. Revise paragraph (a);
- b. Revise paragraphs (c)(4) through (c)(8), (c)(10), (c)(11), and (c)(13);
- c. Remove and reserve paragraphs (c)(9) and (c)(12);
- d. Revise paragraph (d)(1);
- e. Remove and reserve paragraphs (d)(2) through (d)(5);
- f. Revise paragraphs (d)(7) and (d)(10) through (d)(13);
- g. Add a new sentence at the end of paragraph (d)(14)(iv);
- h. Add paragraph (d)(14)(v); and
- i. Remove paragraph (e).

§ 25.114 Applications for space station authorizations.

(a) A comprehensive proposal must be submitted for each proposed GSO space station or NGSO satellite constellation on FCC Form 312, Main Form and Schedule S, together with attached exhibits as described in paragraph (d) of this section. An application for blanket authority for an NGSO satellite constellation comprised of space stations that are not all technically identical must provide the information required by paragraphs (c) and (d) of this section for each type of space station in the constellation.

* * * * *

(c) * * *

(4)(i) For each space station transmitting and receiving antenna beam (including telemetry and tracking beams but not command beams), specify channel center frequencies and bandwidths and polarization plan. For command beams, specify each of the center frequencies within a 5

MHz range or a range of 2 percent of the assigned bandwidth, whichever is smaller, and the polarization plan. If the space station can vary channel bandwidth in a particular frequency band with on-board processing, specify only the range of frequencies in that band over which the beam can operate and the polarization plan.

(ii) Specify maximum EIRP and maximum EIRP density for each space station transmitting antenna beam. If the satellite uses shapeable antenna beams, as defined in § 25.103, specify instead maximum possible EIRP and maximum possible EIRP density within each shapeable beam's proposed coverage area. Provide this information for each frequency band in which the transmitting antenna would operate. For bands below 15 GHz, specify EIRP density in dBW/4 kHz; for bands at and above 15 GHz, specify EIRP density in dBW/MHz. If the EIRP density varies over time, specify the maximum possible EIRP density.

(iii) – (iv) [Reserved]

(v) For each space station receiving beam other than command beams, specify the gain-to-temperature ratio at beam peak. For receiving beams fed into transponders, also specify the minimum and maximum saturation flux density at beam peak. If the satellite uses shapeable beams, specify the minimum and maximum gain-to-temperature ratio within each shapeable beam's proposed coverage area, and for shapeable receiving beams fed into transponders, specify the minimum and maximum saturation power flux density within the 0 dB relative antenna gain isoline. Provide this information for each frequency band in which the receiving beam can operate. For command beams, specify the beam peak flux density at the command threshold;

(vi)(A) For space stations in geostationary orbit, specify predicted space station antenna gain contour(s) for each transmit and receive antenna beam, except for beams where the contour at 8 dB below peak falls entirely beyond the edge of the visible Earth. These contour(s) should be plotted on an area map at 2 dB intervals down to 10 dB below the peak gain and at 5 dB

intervals between 10 dB and 20 dB below the peak gain. Applicants must present this information in a GIMS-readable format.

(B) For space stations in non-geostationary orbits, specify for each unique orbital plane the predicted antenna gain contour(s) for each transmit and receive antenna beam for one space station if all space stations are identical in the constellation. If individual space stations in the constellation have different antenna beam configurations, specify the predicted antenna gain contours for each transmit and receive beam for each space station type and orbit or orbital plane requested. The contours should be plotted on an area map with the beam depicted on the surface of the earth with the space stations' peak antenna gain pointed at nadir to a latitude and longitude within the proposed service area. The contour(s) should be plotted at 2 dB intervals down to 10 dB below the peak gain and at 5 dB intervals between 10 dB and 20 dB below the peak gain. For intersatellite links, specify the peak antenna gain and 3 dB beamwidth.

(C) For space stations with shapeable antenna beams, specify the contours, as defined in paragraph (c)(4)(vi)(A) or (B) of this section, for the transmitting beam configuration that results in the highest EIRP density for the beams listed in paragraph (c)(4)(ii) of this section and for the receiving beam configuration with the smallest gain-to-temperature ratio and the highest required saturation power flux density for the beams listed in paragraph (c)(4)(v) of this section. If the shapeable beams are also steerable, include the contours that would result from moving the beam peak around the limit of the effective beam peak area and the 0 dB relative antenna gain isoline. The proposed maximum coverage area must be clearly specified.

(D) For space stations with steerable beams that are not shapeable, specify the applicable contours, as defined in paragraph(c)(4)(vi)(A) or (B) of this section, with a description of the

area that the steerable beam(s) is expected to serve, or provide the contour information described in paragraph (c)(4)(vi)(C) of this section.

(vii) For geostationary satellites with large numbers of identical fixed spot beams, other than DBS satellites, applicants may, as an alternative to submitting the information described in paragraph (c)(4)(vi) of this section with respect to these beams, provide the predicted antenna gain contours for one transmit and receive antenna beam, together with one of the following:

(A) An area map showing all of the spot beams depicted on the surface of the Earth;

(B) A table identifying the maximum antenna gain point(s) in latitude and longitude to the nearest 0.1 degree; or

(C) A map of the isolines formed by combining all of the spot beams into one or more composite beams. For non-geostationary satellites with large numbers of identical fixed beams on each satellite, applicants may, as an alternative to submitting the information described in paragraph (c)(4)(vi) of this section with respect to those beams, specify the predicted antenna gain contours for one transmit and receive beam pointed to nadir, together with an area map showing all of the spot beams depicted on the surface of the earth with the satellites' peak antenna gain pointed to a selected latitude and longitude within the service area.

(5) For space stations in geostationary orbit:

(i) Orbital location requested,

(ii) [Reserved]

(iii) East-west station-keeping range,

(iv) North-south station-keeping range, and

(v) Accuracy to which antenna axis attitude will be maintained;

(6) For space stations in non-geostationary orbits:

(i) The number of orbital planes and the number of space stations in each plane,

(ii) The inclination of the orbital plane(s),

(iii) The orbital period,

(iv) The apogee,

(v) The perigee,

(vi) The argument(s) of perigee,

(vii) Active service arc(s),

(viii) Right ascension of the ascending node(s), and

(ix) For each satellite in each orbital plane, the initial phase angle at the reference time;

(7) The frequency bands, types of service, and coverage areas;

(8) Calculated maximum power flux density levels within each coverage area and energy dispersal bandwidths, if any, needed for compliance with § 25.208, for the angles of arrival specified in the applicable paragraph(s) of §25.208;

* * * * *

(10) Estimated operational lifetime;

(11) Whether the space station is to be operated on a common carrier basis;

* * * * *

(13) The polarization information necessary for determining compliance with §§ 25.210(a)(1), (a)(3), and (i);

(d) * * *

(1) Overall description of system facilities, operations and services and explanation of how uplink frequency bands would be connected to downlink frequency bands;

* * * * *

(7) Applicants for authorizations for space stations in the Fixed-Satellite Service must also include the information specified in § 25.140(a). Applicants for authorizations for space stations in the 17/24 GHz Broadcasting-Satellite Service must also include the information specified in § 25.140(b)(3), (b)(4), (b)(5), or (b)(6);

* * * * *

(10) Applications for space station authorizations in the 1.6/2.4 GHz Mobile-Satellite Service must also provide all information required by § 25.143(b);

(11) Applications for space stations in the Direct Broadcast Satellite Service must include a clear and detailed statement of whether the space station is to be operated on a broadcast or non-broadcast basis;

(12) Applications for authorizations in the non-geostationary orbit Fixed-Satellite Service in the 10.7-14.5 GHz bands must also provide all information specified in § 25.146.

(13) For satellite applications in the Direct Broadcast Satellite Service, if the proposed system's technical characteristics differ from those specified in the Appendix 30 BSS Plans, the Appendix 30A feeder link Plans, Annex 5 to Appendix 30 or Annex 3 to Appendix 30A of the ITU Radio Regulations, each applicant must provide:

(i) The information requested in Appendix 4 of the ITU Radio Regulations. Further, applicants must provide sufficient technical showing that the proposed system could operate satisfactorily if all assignments in the BSS and feeder link Plans were implemented.

(ii) Analyses of the proposed system with respect to the limits in Annex 1 to Appendices 30 and 30A of the ITU Radio Regulations.

(14) * * *

(iv) * * * Applicants for space stations to be used only for commercial remote sensing may, in lieu of submitting detailed post-mission disposal plans to the Commission, certify that they have submitted such plans to the National Oceanic and Atmospheric Administration for review.

(v) For non-U.S.-licensed space stations, the requirement to describe the design and operational strategies to minimize orbital debris risk can be satisfied by demonstrating that debris mitigation plans for the space station(s) for which U.S. market access is requested are subject to direct and effective regulatory oversight by the national licensing authority.

* * * * *

7. In § 25.115, revise paragraphs (a)(2), (a)(3), and (d), and add paragraphs (j) and (k) to read as follows:

§ 25.115 Applications for earth station authorizations.

(a) * * *

(2) Applicants for licenses for transmitting earth stations in the Fixed-Satellite Service may file on FCC Form 312EZ if all of the following criteria are met:

(i) The application is for a single station that will transmit to an FSS GSO space station, or stations, in the 5925-6425 MHz band, or for single or multiple stations that will transmit to an FSS GSO space station, or stations, in the 14.0-14.5 GHz, 28.35-28.6 GHz, and/or 29.5-30.0 GHz band;

- (ii) The earth station(s) will not be installed or operated on ships, aircraft, or other moving vehicles;
- (iii) The equivalent diameter of the proposed antenna is 4.5 meters or greater if the station will transmit in the 5925-6425 MHz band or 1.2 meters or greater if the station will transmit in the 14.0-14.5 GHz band;
- (iv) If the station(s) will transmit in the 5925-6425 MHz band or the 14.0-14.5 GHz band, the performance of the proposed antenna comports with the standards in § 25.209(a) and (b) and is verified in accordance with applicable provisions of § 25.132;
- (v) If the station(s) will transmit in the 5925-6425 MHz band or the 14.0-14.5 GHz band, input power to the antenna will not exceed applicable limits specified in §§ 25.211 and 25.212; if the station(s) will transmit in the 28.35-28.6 GHz and/or 29.5-30.0 GHz band, off-axis EIRP density will not exceed the levels specified in § 25.138(a);
- (vi) Operation of the proposed station has been successfully coordinated with terrestrial systems, if the station would transmit in the 5925-6425 MHz band;
- (vii) The applicant has provided an environmental impact statement pursuant to § 1.1311 of this chapter, if required; and
- (viii) The applicant does not propose to communicate via non-U.S.-licensed satellites not on the Permitted Space Station List.
- (ix) If the proposed station(s) will transmit in the 28.35-28.6 GHz and/or 29.5-30 GHz bands, the applicant is proposing to communicate only via satellites for which coordination has been completed pursuant to Footnote US334 of the U.S. Table of Frequency Allocations with respect to Federal Government systems authorized on a primary basis, under an agreement previously approved by the Commission and the National Telecommunications and

Information Administration, and the applicant certifies that it will operate consistently with the agreement.

(3) Unless the Commission orders otherwise, an application filed on FCC Form 312EZ in accordance with paragraph (a)(2) of this section will be deemed granted 35 days after the date of the public notice that the application has been accepted for filing, provided no objection is filed during the 30-day public notice period.

* * * * *

(d) Mobile-Satellite Service user transceivers need not be individually licensed. Service vendors may file blanket applications for such transceivers using FCC Form 312, Main Form and Schedule B, specifying the number of units to be covered by the blanket license. A blanket license application for 1.5/1.6 GHz MSS user transceivers must include an explanation of how the applicant will comply with the priority and preemptive access requirements in § 25.287. (e) Earth stations operating in the Fixed-Satellite Service in the 20/30 GHz band: License applications for Fixed-Satellite Service earth stations that would communicate via geostationary satellites in the 18.3-18.8 GHz, 19.7-20.2 GHz, 28.35-28.6 GHz, and/or 29.25-30.0 GHz band must include the information required by § 25.138. Such earth stations may be licensed on a blanket basis. An application for a blanket license for such earth stations must specify the number of terminals to be covered by the license.

* * * * *

(j) An application for a new fixed earth station or modification involving alteration of the overall height of one or more existing earth station antenna structures must include the FCC Antenna Structure Registration Number(s) for the antenna structure(s), if assigned. If no such number has been assigned, the application must state whether prior FAA notification is required by part 17 of this chapter and, if so, whether the applicant or owner of the structure has notified the FAA of the

proposed construction or alteration and applied for an Antenna Structure Registration Number in accordance with part 17 of this chapter. Applicants who maintain that prior FAA notification is not required for construction or alteration of a structure with overall height more than 6.1 meters above ground level must explain in the application why such prior notification is not required.

(k) (1) Applicants for Fixed-Satellite Service earth stations that qualify for routine processing in the C, Ku, or 20/30 GHz band, including ESV applications filed pursuant to § 25.222(a)(1) or (a)(3), VMES applications filed pursuant to § 25.226(a)(1) or (a)(3), and ESAA applications filed pursuant to § 25.227(a)(1) or (a)(3), may designate the Permitted Space Station List as a point of communication. Once such an application is granted, the earth station operator may communicate with any space station on the Permitted Space Station List, provided that the operation is consistent with the technical parameters and conditions established in the earth station license and any limitations placed on the space station authorization or noted in the Permitted Space Station List.

(2) Notwithstanding paragraph (k)(1) of this section, the operator of an earth station that qualifies for routine processing in the 20/30 GHz bands may not communicate with a space station on the Permitted Space Station List in the 18.3-18.8 GHz or 19.7-20.2 GHz band until the space station operator has completed coordination under Footnote US334 to § 2.106 of this chapter.

8. Section 25.118 is amended as follows:

- a. Revise paragraph (a)(2)(i);
- b. Revise the paragraph heading in paragraph (e);
- c. Revise paragraphs (e)(5) and (e)(8); and
- d. Add paragraph (f).

§ 25.118 Modifications not requiring prior authorization.

(a) * * *

(2) * * *

(i) The added, changed, or replaced facilities conform to any applicable requirements in § 25.209;

* * * * *

(e) Relocation of GSO space stations. * * *

* * * * *

(5) The space station licensee certifies that it has completed any necessary coordination of its space station at the new location with other potentially affected space station operators, including coordination of station-keeping volume.

* * * * *

(8) A DBS space station licensee must certify that there will be no increase in interference due to the operations of the relocated space station that would require the Commission to submit a proposed modification to the ITU Appendix 30 Broadcasting-Satellite Service (“BSS”) Plan and/or the Appendix 30A feeder link Plan to the ITU Radiocommunication Bureau.

* * * * *

(f) Repositioning of NGSO space stations. A licensee may reposition NGSO space stations within an authorized orbital plane without prior Commission approval, provided the licensee notifies the Commission of the repositioning 10 days in advance by electronic filing on Form 312 in the International Bureau Filing System. The notification must specify all changes in previously authorized parameters and must certify the following:

- (1) The licensee will continue to comply with the conditions of the space station license and all applicable Commission rules, including geographic coverage requirements, after the repositioning;
- (2) The repositioning will not increase risk of harmful interference to other systems not permitted by coordination agreements;
- (3) The licensee will not request increased interference protection because of the repositioning;
- (4) The licensee will monitor collision risk during the maneuver and take any necessary evasive measures.
- (5) Any change of orbital altitude entailed by the repositioning will not exceed 10 kilometers in extent or 30 days in duration and the licensee has notified, or will notify, the operator(s) of any satellite within 20 kilometers of the interim orbit at least 10 days before commencing the repositioning maneuver.

9. In § 25.121, revise paragraph (d) to read as follows:

§ 25.121 License term and renewals.

* * * * *

- (d) Space stations. (1) For geostationary-orbit space stations, the license term will begin at 3 a.m. Eastern Time on the date when the licensee notifies the Commission pursuant to § 25.173(b) that the space station has been successfully placed into orbit at its assigned orbital location and that its operations conform to the terms and conditions of the space station authorization.
- (2) For non-geostationary orbit space stations, the license period will begin at 3 a.m. Eastern Time on the date when the licensee notifies the Commission pursuant to § 25.173(b) that operation of an initial space station is compliant with the license terms and conditions and that

the space station has been placed in its authorized orbit. Operating authority for all space stations subsequently brought into service pursuant to the license will terminate upon its expiration.

* * * * *

10. In § 25.129, revise paragraph (c) to read as follows:

§ 25.129 Equipment authorization for portable earth-station transceivers.

* * * * *

(c) In addition to the information required by § 1.1307(b) and § 2.1033(c) of this chapter, applicants for certification required by this section must submit any test data necessary to demonstrate compliance with pertinent performance standards in § 25.138, § 25.202(f), § 25.204, § 25.209, and § 25.216, must submit the statements required by § 2.1093(c) of this chapter, and must demonstrate compliance with the labeling requirement in § 25.285(b).

* * * * *

11. In § 25.130, remove and reserve paragraph (e) and add paragraph (g), to read as follows:

§ 25.130 Filing requirements for transmitting earth stations.

* * * * *

(g) Parties may apply for a single FSS earth station license under one call sign covering operation of multiple transmitting antennas not eligible for blanket licensing under another section of this part, in the following circumstances:

(1) The antennas would transmit in frequency bands shared with terrestrial services on a co-primary basis and the antennas would be sited within an area bounded by 1 second of latitude and 1 second of longitude.

(2) The antennas would transmit in frequency bands allocated to FSS on a primary basis and there is no co-primary allocation for terrestrial services, and the antennas would be sited within an area bounded by 10 seconds of latitude and 10 seconds of longitude.

Note to paragraph (g): This paragraph does not apply to applications filed pursuant to §§ 25.134, 25.138, 25.221, 25.222, 25.226, or 25.227 or to applications for 29 GHz NGSO MSS feeder link stations in a complex as defined in § 25.257.

12. In § 25.131, revise the section heading and paragraphs (a), (b), (d), and (j)(2) to read as follows:

§ 25.131 Filing requirements and registration for receive-only earth stations.

(a) Except as provided in paragraphs (b) and (j) of this section, applications for licenses for receive-only earth stations shall be submitted on FCC Form 312, Main Form and Schedule B, accompanied by any required exhibits and the information described in § 25.130(a)(1) through (a)(5). Such applications must be filed electronically through the International Bureau Filing System (IBFS) in accordance with the applicable provisions of part 1, subpart Y of this chapter.

(b) Receive-only earth stations in the Fixed-Satellite Service that operate with U.S.-licensed satellites, or that operate with non-U.S.-licensed satellites on the Permitted Space Station List in accordance with paragraph (j) of this section, may be registered with the Commission in order to protect them from interference from terrestrial microwave stations in bands shared co-equally with the Fixed Service in accordance with the procedures of §§ 25.203 and 25.251, subject to the stricture in § 25.209(e).

* * * * *

(d) Applications for registration must be filed on FCC Form 312, Main Form and Schedule B, accompanied by the coordination exhibit required by § 25.203 and any other required exhibits.

* * * * *

(j) * * *

(2) Operators of receive-only earth stations used to receive transmissions from non-U.S.-licensed space stations on the Permitted Space Station List need not file for licenses, provided that the space station operator and earth station operator comply with all applicable rules in this chapter and with the applicable conditions in the Permitted Space Station List.

13. In § 25.132, revise paragraphs (a), (b)(1), (b)(3), and paragraph (d) introductory text to read as follows:

§ 25.132 Verification of earth station antenna performance standards.

(a)(1) Except for applications for 20/30 GHz earth stations and applications subject to the requirement in paragraph (b)(3) of this section, applications for transmitting earth stations in the Fixed-Satellite Service, including feeder-link stations, must include certification that the applicant has reviewed the results of a series of radiation pattern tests performed by the antenna manufacturer on representative equipment in representative configurations, and the test results demonstrate that the equipment meets the off-axis gain standards in § 25.209, measured in accordance with paragraph (b)(1) of this section. The licensee must be prepared to submit the radiation pattern measurements to the Commission on request.

(2) Applications for transmitting GSO FSS earth stations operating in the 20/30 GHz band must include the antenna measurements specified in §§ 25.138(d) and (e). Applications for

transmitting NGSO FSS earth stations operating in the 20/30 GHz band must include the antenna measurements specified in § 25.138(d).

(b)(1) For purposes of paragraph (a)(1) of this section, the following measurements on a production antenna performed on calibrated antenna range, as a minimum, must be made at the bottom, middle and top of each allocated frequency band:

(i) Co-polarized patterns in the E- and H- planes for linear-polarized antennas or in two orthogonal cuts for circularly-polarized antennas:

(A) In the azimuth plane, plus and minus 7 degrees and plus and minus 180 degrees from beam peak.

(B) In the elevation plane, 0 to 45 degrees from beam peak.

(ii) Cross-polarization patterns in the E- and H- planes for linear-polarized antennas or in two orthogonal cuts for circularly-polarized antennas, plus and minus 9 degrees from beam peak.

(iii) Main beam gain.

* * * * *

(3) Except as provided in paragraph (d) of this section, applicants seeking authority to operate a Fixed-Satellite Service earth station pursuant to the requirements in § 25.218, § 25.220, § 25.221, § 25.222, § 25.223, § 25.226, or § 25.227 must submit a copy of the manufacturer's range test plots of the antenna gain patterns specified in paragraph (b)(1) of this section.

* * * * *

(d) For each new or modified transmitting antenna over 3 meters in diameter, except antennas subject to measurement under § 25.138(d), the following on-site verification measurements must be completed at one frequency on an available transponder in each frequency band of interest and submitted to the Commission.

* * * * *

14. In § 25.133, revise the first sentence of paragraph (a)(1), the first sentence of paragraph (a)(2), paragraph (b)(1) introductory text, and paragraph (b)(1)(v) to read as follows:

§ 25.133 Period of construction; certification of commencement of operation.

(a)(1) Each initial license for an earth station governed by this part, except for blanket licenses, will specify as a condition therein the period in which construction of facilities must be completed and station operation commenced. * * *

(2) Each initial blanket license for multiple earth stations at unspecified locations will specify as a condition therein the period in which station operation must be commenced. * * *

(b)(1) Each initial license for a transmitting earth station or modified license authorizing operation of an additional transmitting antenna, except for blanket licenses, will also specify as a condition therein that upon completion of construction, the licensee must file with the Commission a certification containing the following information:

* * * * *

(v) A certification that the facility as authorized has been completed and that each antenna has been tested and found to perform within 2 dB of the applicable pattern specified in § 25.209 or other authorized pattern;

* * * * *

15. In § 25.134, remove and reserve paragraph (a)(1) and revise paragraphs (b), (e), (f), (g), and (h) to read as follows:

§ 25.134 Licensing provisions for 12/14 GHz Very Small Aperture Terminal (VSAT) and C-band Small Aperture Terminal (CSAT) networks.

* * * * *

(b) VSAT networks operating in the 12/14 GHz band. An applicant for a VSAT network authorization proposing to operate with transmitted power spectral density and/or antenna input power in excess of the values specified in paragraph (g) of this section must comply with the requirements in § 25.220.

* * * * *

(e) VSAT networks operating in the 12/14 GHz bands may use more than one hub earth station, and the hubs may be sited at different locations.

(f) 12/14 GHz VSAT operators may use temporary fixed earth stations as hub earth stations or remote earth stations in their networks, but must specify, in their license applications, the number of temporary fixed earth stations they plan to use.

(g) Applications for VSAT operation in the 12/14 GHz bands that meet the following requirements will be routinely processed:

(1) Equivalent antenna diameter is 1.2 meters or more and the application includes certification of conformance with relevant antenna performance standards in § 25.209 pursuant to § 25.132(a)(1).

(2) The maximum transmitter power spectral density of a digital modulated carrier into any GSO FSS earth station antenna does not exceed $-14.0 - 10\log(N)$ dB(W/4 kHz). For a VSAT network using a frequency division multiple access (FDMA) or a time division multiple access (TDMA) technique, N is equal to one. For a VSAT network using a code division multiple access (CDMA) technique, N is the maximum number of co-frequency simultaneously transmitting earth stations in the same satellite receiving beam.

(3) The maximum GSO FSS satellite EIRP spectral density of the digital modulated emission does not exceed 10 dB(W/4kHz) for all methods of modulation and accessing techniques.

(4) Any earth station applicant filing an application to operate a VSAT network in the 12/14 GHz bands and planning to use a contention protocol must certify that its contention protocol usage will be reasonable.

(5) The maximum transmitter power spectral density of an analog carrier into any GSO FSS earth station antenna does not exceed -8.0 dB(W/4kHz) and the maximum GSO FSS satellite EIRP spectral density does not exceed $+17.0$ dB(W/4kHz).

(h) VSAT operators licensed pursuant to this section are prohibited from using remote earth stations in their networks that are not designed to stop transmission when synchronization to signals from the target satellite fails.

16. In § 25.135, revise the section heading, remove and reserve paragraph (b), revise paragraph (c) to read as set forth below, and remove paragraph (d):

§ 25.135 Licensing provisions for earth station networks in the non-voice, non-geostationary Mobile-Satellite Service.

* * * * *

(c) Transceiver units in this service are authorized to communicate with and through U.S.-authorized space stations only.

§25.136 [Removed and Reserved]

17. Remove and reserve § 25.136.

18. In § 25.138, revise the section heading and paragraph (a) introductory text, remove and reserve paragraph (a)(5), and revise paragraphs (b), (d), (e), (f), and (g) to read as follows:

§ 25.138 Licensing requirements for GSO FSS Earth Stations in the 18.3-18.8 GHz (space-to-Earth), 19.7-20.2 GHz (space-to-Earth), 28.35-28.6 GHz (Earth-to-space), and 29.25-30.0 GHz (Earth-to-space) bands.

(a) Applications for earth station licenses in the GSO FSS in the 18.3-18.8 GHz, 19.7-20.2 GHz, 28.35-28.6 GHz, and 29.25-30.0 GHz bands that indicate that the following requirements will be met and include the information required by paragraph (d) of this section will be routinely processed:

* * * * *

(b) An applicant proposing levels in excess of those specified in paragraph (a) of this section must certify that operators of all co-frequency GSO FSS space stations within 6 degrees of the proposed satellite point(s) of communication are aware of the applicant's proposal to operate with the higher power densities and have stated that they have no objection to such operation.

* * * * *

(d)(1) Except as provided in paragraph (d)(2) of this section, the applicant must provide, for each earth station antenna type, a series of radiation patterns measured on a production antenna. The measurements must be performed on a calibrated antenna range and, at a minimum, must be made at the bottom, middle, and top frequencies of each requested uplink band. The radiation patterns are:

(i) Co-polarized patterns in the E- and H- planes for linear-polarized antennas or in two orthogonal planes for circularly-polarized antennas:

(A) In the azimuth plane, plus and minus 10 degrees and plus and minus 180 degrees from beam peak.

(B) In the elevation plane, 0 to 30 degrees.

(ii) Cross-polarization patterns in the E- and H- planes for linear-polarized antennas or in two orthogonal planes for circularly-polarized antennas, plus and minus 10 degrees from beam peak.

(iii) Main beam gain.

(2) For antennas more than 3 meters in diameter that will only be assembled on-site, on-site measurements may be submitted. If on-site data is to be submitted, the test frequencies and number of patterns should follow, where possible, the requirements in paragraph (d)(1) of this section for at least one frequency. Certification that the on-site testing has been satisfactorily performed must be included with the certification filed pursuant to § 25.133(b).

(e) Protection of downlink reception from adjacent satellite interference is based on either the antenna performance specified in § 25.209 (a) and (b), or the actual receiving earth station antenna performance, if actual performance provides greater isolation from adjacent satellite interference. For purposes of ensuring the correct level of protection, the applicant must provide, for each earth station antenna type, antenna performance plots for the 18.3-18.8 GHz and 19.7-20.2 GHz bands in the format prescribed in paragraph (d) of this section.

(f) The holder of a blanket license pursuant to this section will be responsible for operation of any transceiver to receive service provided by that licensee or provided by another party with the blanket licensee's consent. Space station operators may not transmit communications to or from user transceivers in the United States in the 18.3-18.8 GHz, 19.7-20.2 GHz, 28.35-28.6 GHz, or 29.25-30.0 GHz band unless such communications are authorized under an FCC earth station license.

(g) A licensee applying for renewal of a license issued pursuant to this section must specify on FCC Form 312R the number of constructed earth stations.

19. Section 25.140 is amended as follows:

- a. Revise the section heading;
- b. Add paragraph (a);
- c. Remove and reserve paragraphs (b)(1) and (2);
- d. In paragraphs (b)(3), (b)(4)(i) through (iii), and (b)(5) remove the words “paragraph (b)(2)” and replace them with the words “paragraph (a)”

§ 25.140 Further requirements for license applications for geostationary space stations in the Fixed-Satellite Service and the 17/24 GHz Broadcasting-Satellite Service.

(a) In addition to the information required by § 25.114, applicants for geostationary-orbit FSS space stations must provide an interference analysis to demonstrate the compatibility of their proposed system with respect to authorized space stations within 2 degrees of any proposed satellite point of communication. An applicant should provide details of its proposed radio frequency carriers which it believes should be taken into account in this analysis. At a minimum, the applicant must include, for each type of radio frequency carrier, the link noise budget, modulation parameters, and overall link performance analysis. (See Appendices B and C to Licensing of Space Stations in the Domestic Fixed-Satellite Service, FCC 83-184, and the following public notices, copies of which are available in the Commission’s EDOCS database: DA 03-3863 and DA 04-1708.)

(b) Each applicant for a license for a 17/24 GHz Broadcasting-Satellite Service space station must provide the following information, in addition to that required by § 25.114:

* * * * *

§ 25.142 [Amended]

20. In § 25.142, remove and reserve paragraph (c) and remove paragraph (e).

21. In § 25.143, revise paragraph (b)(1) to read as set forth below, remove and reserve paragraphs (d) and (e), and remove paragraphs (i), (j) and (k):

§ 25.143 Licensing provisions for the 1.6/2.4 GHz Mobile-Satellite Service and 2 GHz Mobile-Satellite Service.

* * * * *

(b) * * * (1) General Requirements. Each application for a space station system authorization in the 1.6/2.4 GHz Mobile-Satellite Service or 2 GHz Mobile-Satellite Service must include the information specified in § 25.114. Applications for non-U.S.-licensed systems must comply with the provisions of § 25.137.

* * * * *

§ 25.144 [Amended]

22. In § 25.144, remove paragraph (a)(3)(iii) and remove and reserve paragraph (c).

23. In § 25.145, remove and reserve paragraphs (a) and (f)(1), revise paragraph (g) to read as set forth below, and remove paragraph (i):

§ 25.145 Licensing provisions for the Fixed-Satellite Service in the 20/30 GHz bands.

* * * * *

(g) Protection from interference from terrestrial operation in the 18.3 to 19.3 GHz band. Fixed-Satellite Service operators are entitled to protection from harmful interference from terrestrial

stations operating in this frequency band. See §§ 21.901(e), 74.502(c), 74.602(g), 78.18(a)(4), and 101.147(r) of this chapter.

* * * * *

§25.146 [Amended]

24. In § 25.146, revise the section heading to read as set forth below, remove and reserve paragraphs (c), (k), and (l), and remove paragraph (n):

§ 25.146 Licensing and operating rules for the non-geostationary orbit Fixed-Satellite Service in the 10.7 GHz-14.5 GHz bands.

* * * * *

25. In § 25.153, revise paragraph (a) to read as follows:

§ 25.153 Repetitious applications.

(a) Where an application has been denied or dismissed with prejudice, the Commission will not consider a like application involving service of the same kind to the same area by the same applicant, or by its successor or assignee, or on behalf of or for the benefit of any of the original parties in interest, until after the lapse of 12 months from the effective date of the Commission's action.

* * * * *

26. In § 25.154, revise paragraphs (d) and (e) to read as follows:

§ 25.154 Opposition to applications and other pleadings.

* * * * *

(d) Reply comments by a party that filed a petition to deny may be filed in response to pleadings filed pursuant to paragraph (c) or (e) of this section within 5 days after expiration of the time for filing oppositions unless the Commission extends the filing deadline and must be in accordance with other applicable provisions of §§ 1.41 through 1.52 of this chapter, except that such reply comments must be filed electronically through the International Bureau Filing System (IBFS) in accordance with the applicable provisions of part 1, subpart Y of this chapter.

(e) Within 30 days after a petition to deny an application filed pursuant to § 25.220 is filed, the applicant may file an opposition to the petition and must file a statement with the Commission, either in conjunction with, or in lieu of, such opposition, explaining whether the applicant has resolved all outstanding issues raised by the petitioner. This statement and any conjoined opposition must be in accordance with the provisions of §§ 1.41 through 1.52 of this chapter applicable to oppositions to petitions to deny, except that such reply comments must be filed electronically through the International Bureau Filing System (IBFS) in accordance with the applicable provisions of part 1, subpart Y of this chapter.

27. In § 25.161, revise paragraph (b) to read as follows:

§ 25.161 Automatic termination of station authorization.

* * * * *

(b) The expiration of the license term, unless, in the case of an earth station license, an application for renewal of the license has been filed with the Commission pursuant to § 25.121(e) or, in the case of a space station license, an application for extension of the license term has been filed with the Commission; or

* * * * *

28. In § 25.164, revise paragraphs (a)(4), (b)(4), (c) through (g) and add paragraph (h) to read as follows:

§ 25.164 Milestones.

(a) * * *

(4) Five years: Launch the space station, position it in its assigned orbital location, and operate it in accordance with the station authorization.

(b) * * *

(4) Three years, six months: Launch the first space station, place it in the authorized orbit, and operate it in accordance with the station authorization.

* * * * *

(c) Licensees of all satellite systems, other than DBS and DARS satellite systems, must either submit a copy of a binding non-contingent satellite construction contract with the Commission or notify the Commission in writing that they have not entered into such a contract, no later than 15 days after the milestone date for entering into such a contract.

(d) Licensees of all satellite systems, other than DBS and DARS satellite systems, must either submit information to the Commission sufficient to demonstrate that the licensee has completed the critical design review of the licensed satellite system or notify the Commission in writing that critical design review has not been completed, no later than 15 days after the milestone date for completion of such design review.

(e) Licensees of all satellite systems, other than DBS and DARS satellite systems, must either submit information to the Commission sufficient to demonstrate that the licensee has commenced physical construction of its licensed spacecraft or notify the Commission in writing that such

construction has not commenced, no later than 15 days after the milestone date for such commencement.

(f) Licensees of all satellite systems, other than DBS and SDARS systems, must either demonstrate compliance with an applicable deadline for operation or launch and operation specified in paragraph (a) or (b) of this section or notify the Commission in writing that launch and commencement of operation has not occurred, no later than 15 days after the deadline.

Compliance with a milestone requirement in paragraph (a)(4), (b)(4), or (b)(5) of this section may be demonstrated by certifying pursuant to § 25.121(d) that the space station, or stations, has, or have, been launched and placed in the authorized orbital location or non-geostationary orbit(s) and that in-orbit operation of the space station or stations has been tested and found to be consistent with the terms of the authorization.

(g) Licensees of satellite systems that include both non-geostationary orbit satellites and geostationary orbit satellites, other than DBS and DARS satellite systems, will be required to comply with the schedule in paragraph (a) of this section with respect to the geostationary orbit satellites, and with the schedule set forth in paragraph (b) of this section with respect to the non-geostationary orbit satellites.

(h) In cases where the Commission grants a satellite authorization in different stages, such as a license for a satellite system using feeder links or inter-satellite links, the earliest of the milestone schedules will be applied to the entire satellite system.

29. Add an undesignated center heading "Reporting Requirements For Space Station Operators" to subpart B immediately following § 25.165.

30. Add § 25.170 to read as follows:

§ 25.170 Annual reporting requirements.

All operators of U.S.-licensed space stations and operators of non-U.S.-licensed space stations granted U.S. market access must, on June 30 of each year, file a report with the International Bureau containing the following information:

(a) Identification of any space station(s) not available for service or otherwise not performing to specifications as of May 31 of the current year, any spectrum within the scope of the part 25 license or market access grant that the space station is unable to use, the cause(s) of these difficulties, and the date when the space station was taken out of service or the malfunction was identified; and

(b) A current listing of the names, titles, addresses, email addresses, and telephone numbers of the points of contact for resolution of interference problems and for emergency response. Contact personnel should include those responsible for resolution of short term, immediate interference problems at the system control center, and those responsible for long term engineering and technical design issues.

(c) Construction progress and anticipated launch dates for authorized replacement satellites.

NOTE TO § 25.170: Space station operators may also be subject to outage reporting requirements in part 4 of this chapter.

31. Add § 25.171 to read as follows:

§ 25.171 Contact information reporting requirements.

If contact information filed in space station application or pursuant to § 25.170(b) or § 25.172(a)(1) changes, the operator must file corrected information electronically in the Commission's International Bureau Filing System (IBFS), in the "Other Filings" tab of the

station's current authorization file. The operator must file the updated information within 10 days.

32. Add § 25.172 to read as follows:

§ 25.172 Requirements for reporting space station control arrangements.

(a) The operator of any space station licensed by the Commission or granted U.S. market access must file the following information with the Commission prior to commencing operation with the space station, or, in the case of a non-U.S.-licensed space station, prior to commencing operation with U.S. earth stations.

(1) The information required by § 25.170(b).

(2) The call signs of any telemetry, tracking, and command earth station(s) communicating with the space station from any site in the United States.

(3) The location, by city and country, of any telemetry, tracking, and command earth station that communicates with the space station from any point outside the United States.

(4) Alternatively, instead of listing the call signs and/or locations of earth stations currently used for telemetry, tracking, and command, the space station operator may provide 24/7 contact information for a satellite control center and a list of the call signs of any U.S. earth stations, and the locations of any non-U.S. earth stations, that are used or may be used for telemetry, tracking, and command communication with the space station(s) in question.

(b) The information required by paragraph (a) of this section must be filed electronically in the Commission's International Bureau Filing System (IBFS), in the "Other Filings" tab of the space station's current authorization file. If call sign or location information provided pursuant to paragraph (a) of this section becomes invalid due to a change of circumstances, the space station

operator must file updated information in the same manner within 30 days, except with respect to changes less than 30 days in duration, for which no update is necessary.

33. Add § 25.173 to read as follows:

§ 25.173 Results of in-orbit testing.

(a) Space station operators must measure the co-polarized and cross-polarized performance of space station antennas through in-orbit testing and submit the measurement data to the Commission upon request.

(b) Within 15 days after completing in-orbit testing of a space station licensed under this part, the operator must notify the Commission that such testing has been completed and certify that the space station's measured performance is consistent with the station authorization and that the space station is capable of using its assigned frequencies or inform the Commission of any discrepancy. The licensee must also indicate in the filing whether the space station has been placed in the assigned geostationary orbital location or non-geostationary orbit. If the licensee files a certification pursuant to this paragraph before the space station has been placed in its assigned orbit or orbital location, the licensee must separately notify the Commission that the space station has been placed in such orbit or orbital location within 3 days after such placement and that the station's measured performance is consistent with the station authorization.

§ 25.201 [Removed and Reserved]

34. Remove and reserve § 25.201.

35. In § 25.202, revise the section heading, remove and reserve paragraph (c), and revise the first sentence in paragraph (g) to read as follows:

§ 25.202 Frequencies, frequency tolerance, and emission limits.

* * * * *

(g) Telemetry, tracking and command functions must be conducted at either or both edges of the allocated band(s). * * *

* * * * *

36. In § 25.203, revise the first sentence in paragraph (f), the first sentence in paragraph (i) introductory text, and the second sentence of paragraph (i)(1) to read as follows:

§ 25.203 Choice of sites and frequencies.

* * * * *

(f) Notification to the National Radio Astronomy Observatory: In order to minimize possible harmful interference at the National Radio Astronomy Observatory site at Green Bank, Pocahontas County, W. Va., and at the Naval Radio Research Observatory site at Sugar Grove, Pendleton County, W. Va., any applicant for operating authority under this part for a new station, other than a mobile or temporary fixed station, within the area bounded by 39°15' N. on the north, 78°30' W. on the east, 37°30' N. on the south and 80°30' W. on the west or for modification of an existing license for such station to change the station's frequency, power, antenna height or directivity, or location must, when filing the application with the Commission, simultaneously notify the Director, National Radio Astronomy Observatory, P.O. Box No. 2, Green Bank, W. Va. 24944, in writing, of the technical particulars of the proposed station. * * *

* * * * *

(i) Any applicant for a new permanent transmitting fixed earth station to be located on the island of Puerto Rico, Desecheo, Mona, Vieques, or Culebra, or for modification of an existing authorization to change the frequency, power, antenna height, directivity, or location of such a station on one of these islands in a way that would increase the likelihood of causing interference, must notify the Interference Office, Arecibo Observatory, HC3 Box 53995, Arecibo, Puerto Rico 00612, in writing or electronically, of the technical parameters of the proposal. * * *

(1) * * * The notification must specify the geographical coordinates of the antenna (NAD-83 datum), antenna height above ground, ground elevation at the antenna, antenna directivity and gain, proposed frequency, relevant FCC rule part, type of emission, effective radiated power, and whether the proposed use is itinerant. * * *

* * * * *

37. In § 25.204, revise the section heading and paragraphs (e) and (f) to read as set forth below, and remove and reserve paragraph (g):

§ 25.204 Power limits for earth stations.

* * * * *

(e) To the extent specified in paragraphs (e) (1) through (e)(4) of this section, earth stations in the Fixed-Satellite Service may employ uplink adaptive power control or other methods of fade compensation to facilitate transmission of uplinks at power levels required for desired link performance while minimizing interference between networks.

(1) Except when paragraphs (e)(2) through(e)(4) of this section apply, transmissions from FSS earth stations in frequencies above 10 GHz may exceed the uplink EIRP and EIRP density limits specified in the station authorization under conditions of uplink fading due to precipitation by an amount not to exceed 1 dB above the actual amount of monitored excess

attenuation over clear sky propagation conditions. EIRP levels must be returned to normal as soon as the attenuating weather pattern subsides. The maximum power level for power control purposes must be coordinated with adjacent satellite operators.

(2) An FSS earth station transmitting to a geostationary space station in the 13.77-13.78 GHz band must not generate more than 71 dBW EIRP in any 6 MHz band. An FSS earth station transmitting to a non-geostationary space station in the 13.77-13.78 GHz band must not generate more than 51 dBW EIRP in any 6 MHz band. Automatic power control may be used to increase the EIRP density in a 6 MHz uplink band in this frequency range to compensate for rain fade, provided that the power flux-density at the space station does not exceed the value that would result when transmitting with an EIRP of 71 dBW or 51 dBW, as appropriate, in that 6 MHz band in clear-sky conditions.

(3) FSS earth stations transmitting to geostationary space stations in the 28.35-28.6 GHz and/or 29.25-30.0 GHz bands may employ uplink adaptive power control or other methods of fade compensation. For stations employing uplink power control, the values in paragraphs (a)(1), (a)(2), and (a)(4) of § 25.138 may be exceeded by up to 20 dB under conditions of uplink fading due to precipitation. The amount of such increase in excess of the actual amount of monitored excess attenuation over clear sky propagation conditions must not exceed 1.5 dB or 15 percent of the actual amount of monitored excess attenuation in dB, whichever is larger, with a confidence level of 90 percent except over transient periods accounting for no more than 0.5 percent of the time during which the excess is no more than 4.0 dB.

(4) Transmissions in the 24.75-25.25 GHz band from 17/24 GHz BSS feeder-link earth stations employing power control may exceed the values in paragraphs (b)(1), (b)(2), and (b)(4) of § 25.223 by up to 20 dB under conditions of uplink fading due to precipitation. The amount of such increase in excess of the actual amount of monitored excess attenuation over clear sky propagation conditions must not exceed 1.5 dB or 15 percent of the actual amount of monitored

excess attenuation in dB, whichever is larger, with a confidence level of 90 percent except over transient periods accounting for no more than 0.5 percent of the time during which the excess is no more than 4.0 dB.

(f) An earth station in the Fixed-Satellite Service transmitting in the 13.75-14 GHz band must have a minimum antenna diameter of 4.5 m, and the EIRP of any emission in that band should be at least 68 dBW and should not exceed 85 dBW.

* * * * *

38. Revise § 25.206 to read as follows:

§ 25.206 Station identification.

The requirement to transmit station identification is waived for all radio stations licensed under this part with the exception of earth stations subject to the requirements of § 25.281.

39. In § 25.208, revise paragraph (w) introductory text and add a note to paragraph (w) to read as follows:

§ 25.208 Power flux density limits.

* * * * *

(w) The power flux density at the Earth's surface produced by emissions from a 17/24 GHz BSS space station operating in the 17.3-17.7 GHz band for all conditions and all methods of modulation must not exceed the regional power flux density levels prescribed in paragraphs (w)(1) through (4) of this section.

* * * * *

NOTE TO PARAGRAPH (w): These limits pertain to the power flux-density that would be obtained under assumed free-space propagation conditions.

40. Section 25.209 is amended as follows:

- a. Revise paragraph (a) introductory text;
- b. Remove the word “Ka-band” from paragraphs (a)(1) through (a)(4) and add in its place the phrase “20/30 GHz band”;
- c. Revise paragraph (b) introductory text;
- d. Remove and reserve paragraph (d);
- e. Revise the first and seventh sentences in paragraph (f);
- f. Remove and reserve paragraph (g); and
- g. Revise paragraph (h)(1).

§ 25.209 Earth station antenna performance standards.

(a) Except as provided in paragraph (f) of this section, the gain of any antenna to be employed in transmission from an earth station in the Fixed-Satellite Service shall lie below the relevant envelope defined in paragraphs (a)(1) through (4) of this section:

* * * * *

(b) Except as provided in paragraph (f) of this section, the off-axis cross-polarization gain of any antenna to be employed in transmission from an earth station to a space station in the Fixed-Satellite Service shall be defined as follows:

* * * * *

(f) An earth station with an antenna not conforming to relevant standards in paragraphs (a) and (b) of this section will be authorized only if the applicant demonstrates that the antenna will not cause unacceptable interference. * * * For other FSS earth stations, this demonstration must comply with the requirements in §§ 25.138, 25.218, or 25.220. * * *

* * * * *

(h)(1) The gain of any transmitting gateway earth station antenna operating in the 10.7-11.7 GHz, 12.75-13.15 GHz, 13.2125-13.25 GHz, 13.8-14.0 GHz, and 14.4-14.5 GHz bands and communicating with NGSO FSS satellites must lie below the envelope defined as follows:

$29-25\log_{10}(\theta)$ dBi for $1^\circ \leq \theta \leq 36^\circ$

-10 dBi for $36^\circ < \theta \leq 180^\circ$

Where: θ is the angle in degrees from the axis of the main lobe, and dBi means dB relative to an isotropic radiator.

* * * * *

41. Section 25.210 is amended as follows:

- a. Remove and reserve paragraph (b),
- b. Revise paragraph (c),
- c. Add a sentence to the end of paragraph (f), and
- d. Remove paragraphs (k) and (l).

§ 25.210 Technical requirements for space stations.

* * * * *

(c) Space station antennas operating in the Direct Broadcast Satellite Service or operating in the Fixed-Satellite Service for reception of feeder links for Direct Broadcast Satellite Service must be designed to provide a cross-polarization isolation such that the ratio of the on-axis co-polar gain to the cross-polar gain of the antenna in the assigned frequency band is at least 27 dB within the primary coverage area.

* * * * *

(f) * * * This requirement does not apply to telemetry, tracking, and command operation.

* * * * *

42. In § 25.211, revise paragraphs (d) and (e) to read as set forth below, and remove paragraph

(f):

§ 25.211 Analog video transmissions in the Fixed-Satellite Service.

* * * * *

(d) An earth station may be routinely licensed for transmission of full-transponder analog video services in the 5925-6425 MHz band or 14.0-14.5 GHz band provided:

- (1) The application includes certification, pursuant to § 25.132(a)(1), of conformance with the antenna performance standards in § 25.209(a) and (b);
- (2) An antenna with an equivalent diameter of 4.5 meters or greater will be used for such transmission in the 5925-6425 MHz band, and the input power into the antenna will not exceed 26.5 dBW;
- (3) An antenna with an equivalent diameter of 1.2 meters or greater will be used for such transmission in the 14.0-14.5 GHz band, and the input power into the antenna will not exceed 27 dBW.

(e) Applications for authority for analog video uplink transmission in the Fixed-Satellite Service not eligible for routine licensing under paragraph (d) of this section are subject to the provisions of § 25.220.

43. In § 25.212, revise paragraphs (c), (d), and (e) to read as follows:

§ 25.212 Narrowband analog transmissions and digital transmissions in the GSO Fixed-Satellite Service.

* * * * *

(c) (1) An earth station that is not subject to licensing under § 25.134, § 25.222, § 25.226, or § 25.227 may be routinely licensed for analog transmissions in the 14.0-14.5 GHz band with bandwidths up to 200 kHz (or up to 1 MHz for command carriers at the band edge) if the equivalent diameter of the transmitting antenna is 1.2 meters or greater, input power spectral density into the antenna will not exceed -8 dBW/4 kHz, transmitted satellite carrier EIRP density will not exceed 17 dBW/4 kHz, and the application includes certification pursuant to § 25.132(a)(1) of conformance with the antenna performance standards in § 25.209(a) and (b).

(2) An earth station that is not subject to licensing under § 25.134, § 25.222, § 25.226, or § 25.227 may be routinely licensed for digital transmission, including digital video transmission, in the 14.0-14.5 GHz band if the equivalent diameter of the transmitting antenna is 1.2 meters or greater, input power spectral density into the antenna will not exceed -14 dBW/4 kHz, transmitted satellite carrier EIRP density will not exceed $+10.0$ dBW/4 kHz, and the application includes certification pursuant to § 25.132(a)(1) of conformance with the antenna performance standards in § 25.209(a) and (b).

(d) An earth station that is not subject to licensing under § 25.134 or § 25.221 may be routinely licensed for digital transmission in the 5925-6425 MHz band or analog transmission in that band

with carrier bandwidths up to 200 kHz (or up to 1 MHz for command carriers at the band edge) if the equivalent diameter of the transmit antenna is 4.5 meters or greater, the application includes certification pursuant to § 25.132(a)(1) of conformance with the antenna performance standards in § 25.209(a) and (b), and maximum power density into the antenna will not exceed +0.5 dBW/4 kHz for analog carriers or $-2.7 - 10\log(N)$ dBW/4 kHz for digital carriers. For digital transmission with frequency division multiple access (FDMA) or time division multiple access (TDMA), N is equal to one. For digital transmission with code division multiple access (CDMA), N is the maximum number of co-frequency simultaneously transmitting earth stations in the same satellite receiving beam.

(e) An applicant for authority for an earth station in the Fixed-Satellite Service proposing to transmit digital signals or analog signals in bandwidths up to 200 kHz (or up to 1 MHz for command carriers at the band edge) and to operate with transmitted satellite carrier EIRP densities, and/or maximum antenna input power densities in excess of those specified in applicable provisions of paragraph (c) or (d) of this section or operate with a smaller antenna than specified in a relevant provision of those paragraphs must comply with the requirements in § 25.218 or § 25.220, unless the application is subject to licensing pursuant to § 25.221, § 25.222, § 25.226, or § 25.227.

* * * * *

44. In § 25.214, remove and reserve paragraph (a) and revise paragraph (c)(1) to read as follows:

§ 25.214 Technical requirements for space stations in the Satellite Digital Audio Radio Service and associated terrestrial repeaters.

* * * * *

(c) * * *

(1) Exclusive SDARS licenses are limited to the 2320-2345 MHz segment of the 2310-2360 MHz allocated bandwidth for SDARS;

* * * * *

§ 25.215 [Removed and Reserved]

45. Remove and reserve § 25.215.

46. In § 25.217, revise paragraph (b)(1), the first sentence of paragraph (b)(3), and paragraph (c)(1) to read as follows:

§ 25.217 Default service rules.

* * * * *

(b)(1) For all NGSO-like satellite licenses for which the application was filed pursuant to the procedures set forth in § 25.157 after August 27, 2003, authorizing operations in a frequency band for which the Commission has not adopted frequency band-specific service rules at the time the license is granted, the licensee will be required to comply with the following technical requirements, notwithstanding the frequency bands specified in these rule provisions: §§ 25.142(d), 25.143(b)(2)(ii), 25.143(b)(2)(iii), 25.204(e), 25.210(d), 25.210(f), and 25.210(i).

* * * * *

(3) Mobile earth station licensees authorized to operate with one or more space stations subject to paragraph (b)(1) of this section must comply with the requirements in §§ 25.285 and 25.287, notwithstanding the frequency bands specified in those sections. * * *

(c)(1) For all GSO-like satellite licenses for which the application was filed pursuant to the procedures set forth in § 25.158 after August 27, 2003, authorizing operations in a frequency

band for which the Commission has not adopted frequency band-specific service rules at the time the license is granted, the licensee will be required to comply with the following technical requirements, notwithstanding the frequency bands specified in these rule provisions: §§ 25.142(d), 25.143(b)(2)(iv), 25.204(e), 25.210(d), 25.210(f), 25.210(i), and 25.210(j).

* * * * *

47. In § 25.218, revise the section heading and paragraphs (a) and (b) to read as set forth below, remove the phrase “peak EIRP” in paragraphs (c)(1), (d)(1), (e)(1), (f)(1), (g)(1), and (h)(1) and add in their place the phrase “peak EIRP density”:

§ 25.218 Off-axis EIRP density envelopes for FSS earth stations transmitting in certain frequency bands.

(a) This section applies to all applications for Fixed-Satellite Service earth stations transmitting to geostationary space stations in the C band, Ku band, or extended Ku band, except for:

- (1) ESV, VMES, and ESAA applications, and
- (2) Analog video earth station applications.

(b) Earth station applications subject to this section are eligible for routine processing if they meet the applicable off-axis EIRP density envelope set forth in this section below. The terms “conventional Ku band” and “extended Ku band” are defined in § 25.103.

* * * * *

48. In § 25.220, revise paragraph (a)(1) to read as follows:

§ 25.220 Non-conforming transmit/receive earth station operations.

(a)(1) The requirements in this section apply to earth station applications of the types to which § 25.218 applies but that propose operation outside of relevant off-axis EIRP density envelopes specified in § 25.218. This section also applies to applications for full-transponder analog video earth stations that are ineligible for routine licensing under § 25.211(d).

* * * * *

49. Section 25.221 is amended as follows:

- a. Revise the section heading;
- b. Revise the last sentence in paragraph (a)(12) and add two sentences thereafter;
- c. Remove the word “EIRP” wherever it appears in paragraphs (b)(1)(i) introductory text and (b)(1)(i)(A) through (C), and add in its place the phrase “EIRP density”; and
- d. Remove the word “ALSAT” in paragraph (b)(7), and add in its place the term “Permitted List”.

§ 25.221 Blanket Licensing provisions for Earth Stations on Vessels (ESVs) receiving in the 3700-4200 MHz (space-to-Earth) band and transmitting in the 5925-6425 MHz (Earth-to-space) band, operating with GSO Satellites in the Fixed-Satellite Service.

(a) * * *

(12) * * * If, prior to the end of the 30-day comment period of the public notice, any objections are received from U.S.-licensed Fixed Service operators that have been excluded from coordination, the ESV licensee must immediately cease operation of that particular station on frequencies used by the affected U.S.-licensed Fixed Service station until the coordination dispute is resolved and the ESV licensee informs the Commission of the resolution. As used in this section, “baseline” means the line from which maritime zones are measured. The baseline is a combination of the low-water line and closing lines across the mouths of inland water bodies

and is defined by a series of baseline points that include islands and “low-water elevations,” as determined by the U.S. Department of State’s Baseline Committee.

* * * * *

§25.222 [Amended]

50. In § 25.222, remove the word “EIRP” wherever it appears in paragraphs (b)(1)(i) introductory text and (b)(1)(i)(A) through (C) and add in its place the phrase “EIRP density” and remove the word “ALSAT” in paragraph (b)(7) and add in its place the term “Permitted List.”

51. In § 25.223, revise the section heading and paragraphs (a) and (c) to read as set forth below and remove paragraph (e):

§ 25.223 Alternative licensing rules for feeder-link earth stations in the 17/24 GHz BSS.

(a) This section applies to license applications for earth stations that transmit to 17/24 GHz Broadcasting-Satellite Service space stations that are not eligible for routine processing under § 25.212(f).

* * * * *

(c) Each earth station license applicant that proposes levels in excess of those defined in paragraph (b) of this section must certify that all potentially affected parties acknowledge and do not object to the use of the applicant’s higher power densities. For proposed power density levels less than or equal to 3 dB in excess of the limits defined in paragraph (b) of this section, the potentially affected parties are operators of co-frequency U.S.-authorized 17/24 GHz BSS satellites at angular separations of up to $\pm 6^\circ$ from the proposed satellite points of communication; for power density levels greater than 3 dB and less than or equal to 6 dB in excess of the limits

defined in paragraph (b) of this section, potentially affected parties are operators of co-frequency U.S.-authorized satellites up to $\pm 10^\circ$ from the proposed satellite points of communication. Power density levels greater than 6 dB in excess of the limits defined in paragraph (b) of this section will not be permitted.

* * * * *

§ 25.226 [Amended]

52. In § 25.226, remove the word “EIRP” wherever it appears in paragraphs (b)(1)(i) introductory text and (b)(1)(i)(A) through (C) and add in its place the phrase “EIRP density” and remove the word “ALSAT” in paragraph (b)(9) and add in its place the phrase “Permitted List.”

§ 25.227 [Amended]

53. In § 25.227, remove the word “ALSAT” from paragraph (a)(12) and add in its place the phrase “Permitted List.”

54. In § 25.259, revise paragraph (b) to read as follows:

§ 25.259 Time sharing between NOAA meteorological satellite systems and non-voice, non-geostationary satellite systems in the 137-138 MHz band.

* * * * *

(b) An NVNG licensee time sharing spectrum in the 137-138 MHz band must establish a 24-hour per day contact person and telephone number so that claims of harmful interference into NOAA earth stations and other operational issues can be reported and resolved expeditiously. This

contact information must be made available to NOAA or its designee. If the NTIA notifies the Commission that NOAA is receiving unacceptable interference from a NVNG licensee, the Commission will require such NVNG licensee to terminate its interfering operations immediately unless it demonstrates to the Commission's reasonable satisfaction, and that of NTIA, that it is not responsible for causing harmful interference into the worldwide NOAA system. An NVNG licensee assumes the risk of any liability or damage that it and its directors, officers, employees, affiliates, agents and subcontractors may incur or suffer in connection with an interruption of its Mobile-Satellite Service, in whole or in part, arising from or relating to its compliance or noncompliance with the requirements of this paragraph.

* * * * *

55. In § 25.260, revise paragraph (b) to read as follows:

§ 25.260 Time sharing between DoD meteorological satellite systems and non-voice, non-geostationary satellite systems in the 400.15-401 MHz band.

* * * * *

(b) An NVNG licensee time sharing spectrum in the 400.15-401 MHz band must establish a 24-hour per day contact person and telephone number so that claims of harmful interference into DoD earth stations and other operational issues can be reported and resolved expeditiously. This contact information must be made available to DoD or its designee. If the NTIA notifies the Commission that DoD is receiving unacceptable interference from a NVNG licensee, the Commission will require such NVNG licensee to terminate its interfering operations immediately unless it demonstrates to the Commission's reasonable satisfaction, and that of NTIA, that it is not responsible for causing harmful interference into the worldwide DoD system. A NVNG licensee assumes the risk of any liability or damage that it and its directors, officers, employees,

affiliates, agents and subcontractors may incur or suffer in connection with an interruption of its Mobile-Satellite Service, in whole or in part, arising from or relating to its compliance or noncompliance with the requirements of this paragraph.

* * * * *

56. In § 25.271, add paragraph (f) to read as follows:

§ 25.271 Control of transmitting stations.

* * * * *

(f) The licensee of any transmitting earth station licensed under this part must update the contact information provided in the most recent license application for the station within 10 days of any change therein. The updated information must be filed electronically in the “Other Filings” tab of the station’s current authorization file in the International Bureau Filing System.

§ 25.272 [Amended]

57. In § 25.272, remove and reserve paragraph (b).

58. Revise § 25.276 to read as follows:

§ 25.276 Points of communication.

Unless otherwise specified in the station authorization, an earth station may transmit to any space station in the same radio service that is listed as a point of communication in the earth station license, provided that permission has been received from the space station operator to access that space station.

59. Revise § 25.281 to read as follows:

§ 25.281 Transmitter identification requirements for video uplink transmissions.

(a) Earth-to-space transmissions carrying video information with analog modulation must be identified through use of an Automatic Transmitter Identification System (ATIS) with an analog identifier or a direct sequence spread spectrum signal.

(1) Use of an analog identifier must be in accordance with the following requirements:

(i) The ATIS signal must be a separate subcarrier that is automatically activated whenever any radio frequency signal is transmitted.

(ii) The ATIS message must continuously repeat.

(iii) The ATIS subcarrier signal must be generated at a frequency of 7.1 MHz \pm 25 kHz and modulate the uplink radio frequency carrier at a level no less than -26 dB (referenced to the unmodulated carrier).

(iv) ATIS subcarrier deviation must not exceed 25 kHz.

(v) The ATIS message protocol must be International Morse Code keyed by a 1200 Hz \pm 800 Hz tone representing a mark and a message rate of 15 to 25 words per minute. The tone must frequency-modulate the subcarrier signal with the ATIS message.

(vi) The ATIS message must include the FCC-assigned call sign of the transmitting earth station, a telephone number providing immediate access to personnel capable of resolving interference or coordination problems, and a unique serial number of ten or more digits programmed into the ATIS message in a permanent manner so that it cannot be readily changed by the operator on duty. Additional information may be included in the ATIS data stream provided the total ATIS message length does not exceed 30 seconds.

(2) Use of a direct sequence spread spectrum ATIS signal must be in accordance with the requirements in paragraphs (b)(1) and (2) of this section.

(b) As of June 1, 2016, transmissions of fixed-frequency, digitally modulated video signals with a symbol rate of 128,000/s or more from Satellite News Gathering vehicles or other temporary-fixed earth stations must be identified through use of an ATIS in accordance with the following requirements:

(1) The ATIS message must be modulated onto a direct sequence spread spectrum signal in accordance with the DVB-CID standard, ETSI TS 103 129 (2013-05), “Technical Specification, Digital Video Broadcasting (DVB); Framing structure, channel coding and modulation of a carrier identification system (DVB-CID) for satellite transmission.” This document is incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51 and approved by the Director of the Federal Register. The ETSI document may be obtained from ETSI, 650 Route des Lucioles, 06921 Sophia Antipolis Cedex, France and by email to webstore@etsi.org and a copy can be downloaded from <http://www.etsi.org>. You may inspect a copy at the Federal Communications Commission, 445 12th Street, SW, Washington, DC 20554, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030 or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

(2) The ATIS message must continuously repeat.

(c) ATIS equipment must be integrated into the uplink transmitter chain with a method that cannot easily be defeated.

60. Add § 25.285 to part 25, subpart D, to read as follows:

§ 25.285 Operation of MSS and ATC transmitters or transceivers on board civil aircraft.

(a) Operation of any of the following devices aboard civil aircraft is prohibited, unless the device is installed in a manner approved by the Federal Aviation Administration or is used by the pilot or with the pilot's consent:

(1) Earth stations capable of transmitting in the 1.5/1.6 GHz, 1.6/2.4 GHz, or 2 GHz Mobile-Satellite Service frequency bands;

(2) ATC terminals capable of transmitting in the 1.5/1.6 GHz, 1.6/2.4 GHz, or 2 GHz MSS bands;

(3) Earth stations used for non-voice, non-geostationary Mobile-Satellite Service communication that can emit radiation in the 108-137 MHz band.

(b) No portable device of any type identified in paragraph (a) of this section (including transmitter or transceiver units installed in other devices that are themselves portable) may be sold or distributed to users unless it conspicuously bears the following warning: "This device must be turned off at all times while on board aircraft." For purposes of this section, a device is portable if it is a "portable device" as defined in § 2.1093(b) of this chapter or is designed to be carried by hand.

61. Add § 25.286 to part 25, subpart D, to read as follows:

§ 25.286 Antenna painting and lighting

The owner of an earth station antenna structure must comply with all applicable painting, marking, and/or lighting requirements in part 17 of this chapter. In the event of default by the owner, the station licensee will be responsible for ensuring that such requirements are met.

62. Add § 25.287 to part 25, subpart D, to read as follows:

§ 25.287 Requirements pertaining to operation of mobile stations in the NVNG, 1.5/1.6 GHz, 1.6/2.4 GHz, and 2 GHz Mobile-Satellite Service bands.

(a) Any mobile earth station (MES) operating in the 1530-1544 MHz and 1626.5-1645.5 MHz bands must have the following minimum set of capabilities to ensure compliance with Footnote 5.353A in 47 CFR 2.106 and the priority and real-time preemption requirements imposed by Footnote US315.

(1) All MES transmissions must have a priority assigned to them that preserves the priority and preemptive access given to maritime distress and safety communications sharing the band.

(2) Each MES with a requirement to handle maritime distress and safety data communications must be capable of either:

(i) Recognizing message and call priority identification when transmitted from its associated Land Earth Station (LES), or

(ii) Accepting message and call priority identification embedded in the message or call when transmitted from its associated LES and passing the identification to shipboard data message processing equipment.

(3) Each MES must be assigned a unique terminal identification number that will be transmitted upon any attempt to gain access to a system.

(4) After an MES has gained access to a system, the mobile terminal must be under control of an LES and must obtain all channel assignments from it.

(5) All MESs that do not continuously monitor a separate signaling channel or signaling within the communications channel must monitor the signaling channel at the end of each transmission.

(6) Each MES must automatically inhibit its transmissions if it is not correctly receiving separate signaling channel or signaling within the communications channel from its associated LES.

(7) Each MES must automatically inhibit its transmissions on any or all channels upon receiving a channel-shut-off command on a signaling or communications channel it is receiving from its associated LES.

(8) Each MES with a requirement to handle maritime distress and safety communications must have the capability within the station to automatically preempt lower precedence traffic.

(b) Any LES for an MSS system operating in the 1530-1544 MHz and 1626.5-1645.5 MHz bands must have the following minimum set of capabilities to ensure compliance with Footnotes 5.353A and the priority and real-time preemption requirements imposed by Footnote US315. An LES fulfilling these requirements must not have any additional priority with respect to FSS stations operating with other systems.

(1) LES transmissions to MESs must have a priority assigned to them that preserves the priority and preemptive access given to maritime distress and safety communications pursuant to paragraph (a) of this section.

(2) The LES must recognize the priority of calls to and from MESs and make channel assignments taking into account the priority access that is given to maritime distress and safety communications.

(3) The LES must be capable of receiving the MES identification number when transmitted and verifying that it is an authorized user of the system to prohibit unauthorized access.

(4) The LES must be capable of transmitting channel assignment commands to the MESs.

(5) The communications channels used between the LES and the MES shall have provision for signaling within the voice/data channel, for an MES that does not continuously monitor the LES signaling channel during a call.

(6) The LES must transmit periodic control signals to MESs that do not continuously monitor the LES signaling channel.

(7) The LES must automatically inhibit transmissions to an MES to which it is not transmitting in a signaling channel or signaling within the communications channel.

(8) The LES must be capable of transmitting channel-shut-off commands to MESs on signaling or communications channels.

(9) Each LES must be capable of interrupting, and if necessary, preempting ongoing routine traffic from an MES in order to complete a maritime distress, urgency or safety call to that MES.

(10) Each LES must be capable of automatically turning off one or more of its associated channels in order to complete a maritime distress, urgency or safety call.

(c) No person without an FCC license for such operation may transmit to a space station in the NVNG, 1.5/1.6 GHz, 1.6/2.4 GHz, or 2 GHz Mobile-Satellite Service from anywhere in the United States except to receive service from the holder of a pertinent FCC blanket license or from another party with the permission of such a blanket licensee.

(d) The holder of an FCC blanket license for operation of mobile transmitters or transceivers for communication via an NVNG, 1.6/2.4 GHz, 1.5/1.6 GHz, or 2 GHz Mobile Satellite Service system will be responsible for operation of any such device to receive service provided by that licensee or provided by another party with the blanket licensee's consent. Operators of such satellite systems must not transmit communications to or from such devices in the United States unless such communications are authorized under a service contract with the holder of a pertinent

FCC blanket earth station license or under a service contract with another party with authority for such operation delegated by such a blanket licensee.

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