SPACE STATIONS

§ 25.140 Further requirements for license applications for GSO space station operation in the FSS and the 17/24 GHz BSS.

(a)(1) In addition to the information required by § 25.114, an applicant for GSO FSS space station operation involving transmission of analog video signals must certify that the proposed analog video operation has been coordinated with operators of authorized co-frequency space stations within six degrees of the requested orbital location.

(2) In addition to the information required by § 25.114, an applicant for GSO FSS space station operation at an orbital location less than two degrees from the assigned location of an authorized co-frequency GSO space station must either certify that the proposed operation has been coordinated with the operator of the co-frequency space station or submit an interference analysis demonstrating the compatibility of the proposed system with the co-frequency space station. Such an analysis 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.) The provisions in this paragraph do not apply to proposed analog video operation, which is subject to the requirement in paragraph (a)(1) of this section.

(3) In addition to the information required by § 25.114, an applicant for a GSO FSS space station must provide the following for operation other than analog video operation:

(i) With respect to proposed operation in the conventional or extended C-bands, a certification that downlink EIRP density will not exceed 3 dBW/4kHz for digital transmissions or 8 dBW/4kHz for analog transmissions and that associated uplink operation will not exceed applicable EIRP density envelopes in § 25.218 or § 25.221(a)(1) unless the non-routine uplink and/or downlink operation is coordinated with operators of authorized co-frequency space stations at assigned locations within six degrees of the orbital location of the proposed space station and except as provided in paragraph (d) of this section.

(ii) With respect to proposed operation in the conventional or extended Ku-bands, a certification that downlink EIRP density will not exceed 14 dBW/4kHz for digital transmissions or 17 dBW/4kHz for analog transmissions and that associated uplink operation will not exceed applicable EIRP density envelopes in § 25.218, § 25.222(a)(1), § 25.226(a)(1), or § 25.227(a)(1) unless the non-routine uplink and/or downlink operation is coordinated with operators of authorized co-frequency space stations at assigned locations within six degrees of the orbital location of the proposed space station and except as provided in paragraph (d) of this section.

(iii) With respect to proposed operation in the conventional Ka-band, a certification that the proposed space station will not generate power flux-density at the Earth's surface in excess of −118 dBW/m^2/MHz and that associated uplink operation will not exceed applicable EIRP density envelopes in § 25.138(a) unless the non-routine uplink and/or downlink operation is coordinated with operators of authorized co-frequency space stations at assigned locations within six degrees of the orbital location and except as provided in paragraph (d) of this section.

(iv) With respect to proposed operation in the 4500–4800 MHz (space-to-Earth), 6725–7025 MHz (Earth-to-space), 10.70–10.95 GHz (space-to-Earth), 11.20–11.45 GHz (space-to-Earth), and/or 12.75–13.25 GHz (Earth-to-space) bands, a statement that the proposed operation will take into account the applicable requirements of Appendix 30B of the ITU Radio Regulations (incorporated by reference, *see* § 25.108) and a demonstration that it is compatible with other U.S. ITU filings under Appendix 30B.

(v) With respect to proposed operation in other FSS bands, an interference analysis demonstrating compatibility with any previously authorized co-frequency space station at a location two degrees away or a certification that the proposed operation has been coordinated with the operator(s) of the previously authorized space station(s). If there is no previously authorized space station at a location two degrees away, the applicant must submit an interference analysis demonstrating compatibility with a hypothetical co-frequency space station two degrees away with the same receiving and transmitting characteristics as the proposed space station.

(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:

(1)–(2) [Reserved]

(3) Except as described in paragraph (b)(5) of this section, an applicant for a license to operate a 17/24 GHz BSS space station that will be located precisely at one of the 17/24 GHz BSS orbital locations specified in Appendix F of the Report and Order adopted May 2, 2007, IB Docket No. 06–123, FCC 07–76, must certify that the downlink power flux density on the Earth's surface will not exceed the values specified in § 25.208(w), and that the associated feeder-link earth station transmissions will not exceed the EIRP density limits in § 25.223(c) unless the non-conforming uplink operation is coordinated with other affected 17/24 GHz BSS systems in accordance with § 25.223(c).

(4) Except as described in paragraph (b)(5) of this section, an applicant for a license to operate a 17/24 GHz BSS space station that will not be located precisely at one of the nominal 17/24 GHz BSS orbital locations specified in Appendix F of the Report and Order adopted May 2, 2007, IB Docket No. 06–123, FCC 07–76, must make one of the following showings:

(i) In cases where there is no previously licensed or proposed space station to be located closer than four degrees from the applicant's space station, and the applicant seeks to operate pursuant to § 25.262(b) of this part, the applicant must provide an interference analysis of the kind described in paragraph (a) of this section, except that the applicant must demonstrate the compatibility of its proposed network with any current or future authorized space stations in the 17/24 GHz BSS that are operating in compliance with the technical rules of this part and that will be located at least four degrees from the applicant's proposed space station;

(ii) In cases where there is a previously licensed or proposed 17/24 GHz BSS space station to be located within four degrees of the applicant's proposed space station, the applicant must provide an interference analysis of the kind described in paragraph (a) of this section, except that the applicant must demonstrate that its proposed network will not cause more interference to the adjacent 17/24 GHz BSS satellite networks operating in compliance with the technical requirements of this part, than if the applicant were located at the precise Appendix F orbital location from which it seeks to offset;

(iii) In cases where there is no previously licensed or proposed 17/24 GHz BSS space station to be located within four degrees of the applicant's proposed space station, and the applicant does not seek to operate pursuant to § 25.262(b) of this part, the applicant must provide an interference analysis of the kind described in paragraph (a) of this section, except that the applicant must demonstrate that its proposed operations will not cause more interference to any current or future 17/24 GHz BSS satellite networks operating in compliance with the technical requirements of this part, than if the applicant were located at the precise Appendix F orbital location from which it seeks to offset.

(5) An applicant for a license to operate a 17/24 GHz BSS space station, in cases where there is a previously licensed or proposed space station operating pursuant to § 25.262(b) of this part located within four degrees of the applicant's proposed 17/24 GHz BSS space station, must provide an interference analysis of the kind described in paragraph (a) of this section, except that the applicant must demonstrate that its proposed operations will not cause more interference to the adjacent 17/24

GHz BSS satellite network than if the adjacent space station were located four degrees from the applicant's space station.

(6) In addition to the requirements of paragraphs (b)(3), (b)(4), and (b)(5) of this section, the link budget for any satellite in the 17/24 GHz BSS must take into account longitudinal stationkeeping tolerances and, where appropriate, any existing orbital location offsets from the 17/24 GHz BSS orbital locations of the adjacent prior-authorized 17/24 GHz BSS space stations. In addition, any 17/24 GHz BSS satellite applicant that has reached a coordination agreement with an operator of another 17/24 GHz BSS satellite to allow that operator to exceed the pfd levels specified in the rules for this service, must use those higher pfd levels for the purposes of this showing.

(c) Operators of satellite networks using 17/24 GHz BSS space stations must design their satellite networks to be capable of operating with another 17/24 GHz BSS space station as follows:

(1) Except as described in paragraphs (b)(4)(ii) and (b)(4)(iii) of this section, all satellite network operators using 17/24 GHz BSS space stations must design their satellite networks to be capable of operating with another 17/24 GHz BSS space station as close as four degrees away.

(2) Satellite network operators located less than four degrees away from a space station to be operated pursuant to §25.262(b) of this part must design their satellite networks to be capable of operating with that adjacent 17/24 GHz BSS space station.

(3) Satellite network operators using 17/24 GHz BSS space stations located at an orbital location other than those specified in Appendix F of the Report and Order adopted May 2, 2007, IB Docket No. 06–123, FCC 07–76, and that are not operating pursuant to §25.262(b) of this part, must design their satellite networks to be capable of operating with another 17/24 GHz BSS space station closer than four degrees away, as a result of the operator's offset position.

(d) An operator of a GSO FSS space station in the conventional or extended C-bands, conventional or extended Ku-bands, or conventional Ka-band may notify the Commission of its non-routine transmission levels and be relieved of the obligation to coordinate such levels with later applicants and petitioners.

(1) The letter notification must include the downlink off-axis EIRP density levels or power flux density levels and/or uplink off-axis EIRP density levels, specified per frequency range and space station antenna beam, that exceed the relevant routine limits set forth in paragraphs (a)(3)(i) through (iii) of this section and §25.138(a), §25.218, §25.221(a)(1), §25.222(a)(1), §25.226(a)(1), or §25.227(a)(1).

(2) The notification will be placed on public notice pursuant to §25.151(a)(11).

(3) Non-routine transmissions notified pursuant to this paragraph (d) need not be coordinated with operators of authorized co-frequency space stations that filed their complete applications or petitions after the date of filing of the notification with the Commission. Such later applicants and petitioners must accept any additional interference caused by the notified non-routine transmissions.

(4) An operator of a replacement space station, as defined in §25.165(e), may operate with non-routine transmission levels to the extent permitted under paragraph (d)(3) of this section for the replaced space station.

(e)–(g) [Reserved]

[62 FR 5929, Feb. 10, 1997, as amended at 68 FR 51504, Aug. 27, 2003; 72 FR 50028, Aug. 29, 2007; 72 FR 60279, Oct. 24, 2007; 78 FR 8422, Feb. 6, 2013; 79 FR 8319, Feb. 12, 2014; 79 FR 44312, July 31, 2014; 81 FR 55332, Aug. 18, 2016]

EFFECTIVE DATE NOTE: At 79 FR 44312, July 31, 2014, the amendatory instruction at 79 FR 8319, Feb. 12, 2014, was corrected by adding ''revise paragraph (b) introductory text''. This text contains information collection and recordkeeping requirements and will not become effective until approval has been given by the Office of Management and Budget.

§25.142 Licensing provisions for the non-voice, non-geostationary Mobile-Satellite Service.

(a) *Space station application requirements.* (1) Each application for a space station system authorization in the non-voice, non-geostationary mobile-satellite service shall describe in detail