comply within 100 milliseconds of receiving the command.

(3) An applicant proposing to implement an ESV system subject to paragraph (a)(3) of this section must provide the following information in exhibits to its earth station application:

(i) Off-axis EIRP density data pursuant to § 25.115(g)(1);

(ii) A detailed showing of the measures that will be employed to maintain aggregate EIRP density at or below the limit in paragraph (a)(3)(i) of this section;

(iii) A detailed showing that each ESV terminal will automatically cease or reduce emissions within 100 milliseconds after generating off-axis EIRP density exceeding the limit in paragraph (a)(3)(i) of this section; and

(iv) A detailed showing that the aggregate power density from simultaneously transmitting ESV transmitters will be monitored at the system's network control and monitoring center; that if simultaneous operation of two or more ESV transmitters causes aggregate off-axis EIRP density to exceed the off-axis EIRP density limit in paragraph (a)(3)(i) of this section, the network control and monitoring center will command those transmitters to cease emissions or reduce the aggregate EIRP density to a level at or below that limit; and that those transmitters will comply within 100 milliseconds of receiving the command.

(4) There shall be an exhibit included with the application describing the geographic area(s) in which the ESVs will operate.

(5) The point of contact referred to in paragraph (a)(3) of this section and, if applicable paragraph (a)(6) of this section, must be included in the application.

(6) ESVs that exceed the radiation guidelines of § 1.1310 of this chapter, Radiofrequency radiation exposure limits, must provide, with their environmental assessment, a plan for mitigation of radiation exposure to the extent required to meet those guidelines.

(7) Except for ESV systems operating pursuant to paragraph (a)(2) of this section, ESV systems authorized pursuant to this section shall be eligible for a license that lists Permitted List as an authorized point of communication.

(c) Operations of ESVs in the 14.0–14.2 GHz (Earth-to-space) frequency band within 125 km of the NASA TDRSS facilities on Guam (located at latitude: 13°36′55″ N, longitude 144°51′22″ E) or White Sands, New Mexico (latitude: 32°20′59″ N, longitude 106°36′31″ W and latitude: 32°32′40″ N, longitude 106°36′48″ W) are subject to coordination through the National Telecommunications and Information Administration (NTIA) Interdepartment Radio Advisory Committee (IRAC). When NTIA seeks to provide similar protection to future TDRSS sites that have been coordinated through the IRAC Frequency Assignment Subcommittee process, NTIA will notify the Commission that the site is nearing operational status. Upon public notice from the Commission, all Ku-band ESV operators must cease operations in the 14.0–14.2 GHz band within 125 km of the new TDRSS site until after NTIA/IRAC coordination for the new TDRSS facility is complete. ESV operations will then again be permitted to operate in the 14.0–14.2 GHz band within 125 km of the new TDRSS site, subject to any operational constraints developed in the coordination process.

(d) Operations of ESVs in the 14.47–14.5 GHz (Earth-to-space) frequency band within (a) 45 km of the radio observatory on St. Croix, Virgin Islands (latitude 17°46′ N, longitude 64°35′ W); (b) 125 km of the radio observatory on Mauna Kea, Hawaii (at latitude 19°48′ N, longitude 155°28′ W); and (c) 90 km of the Arecibo Observatory on Puerto Rico (latitude 18°20′46″ W, longitude 66°45′11″ N) are subject to coordination through the National Telecommunications and Information Administration (NTIA) Interdepartment Radio Advisory Committee (IRAC).

[74 FR 47105, Sept. 15, 2009, as amended at 77 FR 50051, Aug. 20, 2012; 78 FR 8429, Feb. 6, 2013; 79 FR 8324, Feb. 12, 2014; 81 FR 55343, Aug. 18, 2016]

§ 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).

(b) Applications for earth station licenses in the 24.75–25.25 GHz portion of 17/24 GHz BSS may be routinely processed if they meet the following requirements:

(1) The EIRP density of co-polarized signals will not exceed the following values in the plane tangent to the GSO arc, as defined in §25.103, under clear sky conditions:

32.5–25log(θ)	dBW/MHz	for $2° \le \theta \le 7°$.
11.4	dBW/MHz	for $7° \le \theta \le 9.2°$.
35.5–25log(θ)	dBW/MHz	for $9.2° \le \theta \le 19.1°$.
3.5	dBW/MHz	for $19.1° \le \theta \le 180°$.

Where θ is the angle in degrees from a line from the earth station antenna to the assigned orbital location of the target satellite.

(2) The EIRP density of co-polarized signals will not exceed the following values under clear sky conditions in the plane perpendicular to the GSO arc, as defined in §25.103:

35.5–25log(θ)	dBW/MHz	for $2° \le \theta \le 7°$.
14.4	dBW/MHz	for $7° \le \theta \le 9.2°$.
38.5–25log(θ)	dBW/MHz	for $9.2° \le \theta \le 19.1°$.
6.5	dBW/MHz	for $19.1° \le \theta \le 180°$.

Where θ is as defined in paragraph (b)(1) of this section.

(3) The EIRP density levels specified in paragraphs (a)(1) and (2) of this section may be exceeded by up to 3 dB for values of $\theta > 7°$, in 10% of the range of theta (θ) angles from 7°–180° on each side of the line from the earth station to the target satellite.

(4) The EIRP density of cross-polarized signals will not exceed the following values in the plane tangent to the GSO arc or in the plane perpendicular to the GSO arc, under clear sky conditions:

22.5–25log(θ)	dBW/MHz	for $2° \le \theta \le 7°$.

Where θ is as defined in paragraph (b)(1) of this section.

(c) An applicant proposing levels in excess of those specified in paragraph (b) of this section must certify that potentially affected parties acknowledge and do not object to the use of the applicant's higher EIRP densities.

(1) For proposed non-conforming EIRP density levels up to 3 dB in excess of the limits defined in paragraph (b) of this section, potentially affected parties are operators of co-frequency U.S.-authorized 17/24 GHz BSS space stations at angular separations of up to ±6° from the proposed satellite points of communication. For proposed EIRP density levels more than 3 dB but not more than 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 space stations up to ±10° from the proposed satellite points of communication.

(2) Notwithstanding paragraph (c)(1) of this section, an applicant need not certify that the operator of a co-frequency space station consents to proposed non-conforming operation if EIRP density from the proposed earth station will not exceed the levels specified in paragraph (b) toward any position in the geostationary arc within one degree of the assigned orbital location of the co-frequency space station.

(3) Power density levels more than 6 dB in excess of the limits defined in paragraph (b) of this section will not be permitted.

(d)(1) The operator of an earth station licensed pursuant to paragraph (c) of this section will bear the burden of coordinating with the operator of a co-frequency space station subsequently licensed by the Commission for operation at an orbital location 10° or less from the earth station's target satellite if the co-frequency space station's reception of conforming uplink transmissions is, or would be, adversely affected by the earth station's non-conforming operation. If no agreement is reached, the earth station operator must reduce EIRP density toward that co-frequency space station to a level in conformance with the envelopes specified in paragraph (b) of this section.

(2) The operator of an earth station licensed pursuant to paragraph (c)(1) or (c)(2) of this section must reduce EIRP density to levels at or within those specified in paragraph (b) toward a U.S.-licensed space station receiving in the same uplink band at an angular separation from the earth station's target satellite greater than is required in paragraph (c)(1) of this section, if the co-frequency space station's reception of conforming uplink transmissions is adversely affected by the non-conforming earth station operation, unless the non-conforming operation is permitted under a coordination agreement with the operator of the co-frequency space station.

[72 FR 50030, Aug. 29, 2007, as amended at 79 FR 8324, Feb. 12, 2014; 81 FR 55344, Aug. 18, 2016]

§ 25.224 Protection of receive-only earth stations in the 17/24 GHz BSS.

(a) Notwithstanding § 25.209(c) of this part, receive-only earth stations operating in the 17/24 GHz broadcasting-satellite service can claim no greater protection from interference than they would receive if the equivalent antenna diameter were equal to or greater than 45 cm and the antenna meets the co-polar and cross-polar performance patterns represented by the following set of formulas (adopted in Recommendation ITU–R BO.1213–1, dated November 2005) that are valid for $D/\lambda \geq 11$: