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### § 26.304 Antenna structures; air navigation safety.

A licensee that owns its antenna structure(s) must not allow such antenna structure(s) to become a hazard to air navigation. In general, antenna structure owners are responsible for registering antenna structures with the FCC if required by part 17 of this chapter, and for installing and maintaining any required marking and lighting. However, in the event of default of this responsibility by an antenna structure owner, the FCC permittee or licensee authorized to use an affected antenna structure will be held responsible by the FCC for ensuring that the antenna structure continues to meet the requirements of part 17. See § 17.6 of this chapter.

(a) *Marking and lighting.* Antenna structures must be marked, lighted and maintained in accordance with part 17 of this chapter and all applicable rules and requirements of the Federal Aviation Administration (see §§ 77.5 through 77.11 of this chapter). For any construction or alteration that would exceed the requirements of § 17.7 of this chapter, licensees must notify the appropriate Regional Office of the Federal Aviation Administration (FAA Form 7460-1) and file a request for antenna height clearance and obstruction marking and lighting specifications (FCC Form 854) with the FCC, WTB, 1270 Fairfield Road, Gettysburg, PA 17325.

(b) *Maintenance contracts.* Antenna structure owners (or licensees and permittees, in the event of default by an antenna structure owner) may enter into contracts with other entities to monitor and carry out necessary maintenance of antenna structures. Antenna structure owners (or licensees and permittees, in the event of default by an antenna structure owner) that make such contractual arrangements continue to be responsible for the maintenance of antenna structures in regard to air navigation safety.

### § 26.305 Incorporation by reference.

Certain material is incorporated by reference into this subpart with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved incorpora-

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tion by reference (IBR) material is available for inspection at the Federal Communications Commission (FCC) and at the National Archives and Records Administration (NARA). Contact the FCC at the address indicated in § 0.401(a) of this chapter; phone: (202) 418-0270; email: [oetinfo@fcc.gov](mailto:oetinfo@fcc.gov). For information on the availability of this material at NARA, visit [www.archives.gov/federal-register/cfr/ibr-locations](http://www.archives.gov/federal-register/cfr/ibr-locations) or email [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov). The material may be obtained from National Telecommunications and Information Administration (NTIA), Office of Spectrum Management, 1401 Constitution Avenue NW, Room 1087, Washington, DC 20230; phone (202) 482-1850; website: [www.ntia.gov/office/office-spectrum-management-osm](http://www.ntia.gov/office/office-spectrum-management-osm):

(a) NTIA Manual of Regulations and Procedures for Federal Radio Frequency Management, Annex J: Guidance for Determination of Necessary Bandwidth, NTIA Manual of Regulations and Procedures for Federal Radio Frequency Management, January 2023 Revision (of the January 2021 Edition); IBR approved for § 26.302. (Available at [www.ntia.gov/sites/default/files/2023-11/j\\_2021\\_edition\\_rev\\_2023.pdf](http://www.ntia.gov/sites/default/files/2023-11/j_2021_edition_rev_2023.pdf).)

(b) NTIA Manual of Regulations and Procedures for Federal Radio Frequency Management, Annex M: Measurement Methods, January 2023 Revision (of the January 2021 Edition); IBR approved for § 26.302. (Available at [www.ntia.gov/sites/default/files/2023-11/m\\_2021\\_edition\\_rev\\_2023.pdf](http://www.ntia.gov/sites/default/files/2023-11/m_2021_edition_rev_2023.pdf).)

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AUTHORITY: 47 U.S.C. 154, 301, 302a, 303, 307, 309, 332, 336, 337, 1403, 1404, 1451, and 1452, unless otherwise noted.

SOURCE: 62 FR 9658, Mar. 3, 1997, unless otherwise noted.

**Subpart A—General Information****§27.1 Basis and purpose.**

This section contains the statutory basis for this part of the rules and provides the purpose for which this part is issued.

(a) *Basis.* The rules for miscellaneous wireless communications services (WCS) in this part are promulgated under the provisions of the Communications Act of 1934, as amended, that vest authority in the Federal Communications Commission to regulate radio transmission and to issue licenses for radio stations.

(b) *Purpose.* This part states the conditions under which spectrum is made available and licensed for the provision of wireless communications services in the following bands.

- (1) 2305–2320 MHz and 2345–2360 MHz.
- (2) 746–758 MHz, 775–788 MHz, and 805–806 MHz.
- (3) 698–746 MHz.
- (4) 1390–1392 MHz.
- (5) 1392–1395 MHz and 1432–1435 MHz.
- (6) 1670–1675 MHz.
- (7) 1915–1920 MHz and 1995–2000 MHz.
- (8) 1710–1755 MHz and 2110–2155 MHz.
- (9) 2495–2690 MHz.
- (10) 2000–2020 MHz and 2180–2200 MHz.
- (11) 1695–1710 MHz.
- (12) 1755–1780 MHz.
- (13) 2155–2180 MHz.
- (14) 617–652 MHz and 663–698 MHz.
- (15) 3700–3980 MHz.

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(16) 897.5–900.5 MHz and 936.5–939.5 MHz.

(17) 3450–3550 MHz.

(c) *Scope.* The rules in this part apply only to stations authorized under this part or authorized under another part of this chapter on frequencies or bands transitioning to authorizations under this part.

[62 FR 9658, Mar. 3, 1997]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 27.1, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at [www.govinfo.gov](http://www.govinfo.gov).

### § 27.2 Permissible communications.

(a) *Miscellaneous wireless communications services.* Except as provided in paragraph (b) or (d) of this section and subject to technical and other rules contained in this part, a licensee in the frequency bands specified in § 27.5 may provide any services for which its frequency bands are allocated, as set forth in the non-Federal Government column of the Table of Allocations in § 2.106 of this chapter (column 5).

(b) *775–776 MHz and 805–806 MHz bands.* Operators in the 775–776 MHz and 805–806 MHz bands may not employ a cellular system architecture. A cellular system architecture is defined, for purposes of this part, as one that consists of many small areas or cells (segmented from a larger geographic service area), each of which uses its own base station, to enable frequencies to be reused at relatively short distances.

(c) *Satellite DARS.* Satellite digital audio radio service (DARS) may be provided using the 2310–2320 and 2345–2360 MHz bands. Satellite DARS service shall be provided in a manner consistent with part 25 of this chapter.

(d) *2000–2020 MHz and 2180–2200 MHz bands.* Operators in the 2000–2020 MHz and 2180–2200 MHz bands may not provide the mobile-satellite service under the provisions of this part; rather, mobile-satellite service shall be provided in a manner consistent with part 25 of this chapter.

(e) *716–722 MHz and 722–728 MHz bands.* The 716–722 and 722–728 MHz frequencies may not be used for uplink

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transmission and must be used only for downlink transmissions.

[65 FR 3144, Jan. 20, 2000, as amended at 65 FR 17601, Apr. 4, 2000; 72 FR 48843, Aug. 24, 2007; 78 FR 8267, Feb. 5, 2013; 78 FR 66316, Nov. 5, 2013]

### § 27.3 Other applicable rule parts.

Other FCC rule parts applicable to the Wireless Communications Service include the following:

(a) *Part 0.* This part describes the Commission's organization and delegations of authority. Part 0 of this chapter also lists available Commission publications, standards and procedures for access to Commission records, and location of Commission Field Offices.

(b) *Part 1.* This part includes rules of practice and procedure for license applications, adjudicatory proceedings, procedures for reconsideration and review of the Commission's actions; provisions concerning violation notices and forfeiture proceedings; competitive bidding procedures; and the environmental requirements that, together with the procedures specified in § 17.4(c) of this chapter, if applicable, must be complied with prior to the initiation of construction. Subpart F includes the rules for the Wireless Telecommunications Services and the procedures for filing electronically via the ULS.

(c) *Part 2.* This part contains the Table of Frequency Allocations and special requirements in international regulations, recommendations, agreements, and treaties. This part also contains standards and procedures concerning the marketing and importation of radio frequency devices, and for obtaining equipment authorization.

(d) *Part 5.* This part contains rules prescribing the manner in which parts of the radio frequency spectrum may be made available for experimentation.

(e) *Part 15.* This part sets forth the requirements and conditions applicable to certain radio frequency devices.

(f) *Part 17.* This part contains requirements for the construction, marking and lighting of antenna towers, and the environmental notification process that must be completed before filing certain antenna structure registration applications.

(g) *Part 20.* This part sets forth the requirements and conditions applicable

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to commercial mobile radio service providers.

(h) *Part 22.* This part sets forth the requirements and conditions applicable to public mobile services.

(i) *Part 24.* This part sets forth the requirements and conditions applicable to personal communications services.

(j) *Part 25.* This part contains the requirements for satellite communications, including satellite DARS.

(k) *Part 51.* This part contains general duties of telecommunications carriers to provide for interconnection with other telecommunications carriers.

(l) *Part 64.* This part sets forth the requirements and conditions applicable to telecommunications carriers under the Communications Assistance for Law Enforcement Act.

(m) *Part 68.* This part contains technical standards for connection of terminal equipment to the telephone network.

(n) *Part 73.* This part sets forth the requirements and conditions applicable to radio broadcast services.

(o) *Part 74.* This part sets forth the requirements and conditions applicable to experimental radio, auxiliary, special broadcast and other program distributional services.

(p) *Part 90.* This part sets forth the requirements and conditions applicable to private land mobile radio services.

(q) *Part 101.* This part sets forth the requirements and conditions applicable to fixed microwave services.

[62 FR 9658, Mar. 3, 1997, as amended at 63 FR 68954, Dec. 14, 1998; 65 FR 3144, Jan. 20, 2000; 67 FR 5510, Feb. 6, 2002; 69 FR 5714, Feb. 6, 2004; 69 FR 72031, Dec. 10, 2004; 70 FR 61059, Oct. 20, 2005; 77 FR 3955, Jan. 26, 2012]

### §27.4 Terms and definitions.

**3.45 GHz Service.** A radiocommunication service licensed under this part for the frequency bands specified in §27.5(o) (3450–3550 MHz band).

**3.7 GHz Service.** A radiocommunication service licensed under this part for the frequency bands specified in §27.5(m) (3700–3980 MHz band).

**600 MHz service.** A radiocommunication service licensed

pursuant to this part for the frequency bands specified in §27.5(l).

*Advanced Wireless Service (AWS).* A radiocommunication service licensed pursuant to this part for the frequency bands specified in §27.5(h), 27.5(j), or 27.5(k).

*Affiliate.* This term shall have the same meaning as that for "affiliate" in part 1, §1.2110(b)(5) of this chapter.

*Assigned frequency.* The center of the frequency band assigned to a station.

*Attended operation.* Operation of a station by a designated person on duty at the place where the transmitting apparatus is located with the transmitter in the person's plain view.

*Authorized bandwidth.* The maximum width of the band of frequencies permitted to be used by a station. This is normally considered to be the necessary or occupied bandwidth, whichever is greater.

*Average terrain.* The average elevation of terrain between 3 and 16 kilometers from the antenna site.

*Base station.* A land station in the land mobile service.

*Booster service area.* A geographic area to be designated by an applicant for a booster station, within which the booster station shall be entitled to protection against interference as set forth in this part. The booster service area must be specified by the applicant so as not to overlap the booster service area of any other booster authorized to or proposed by the applicant. However, a booster station may provide service to receive sites outside of its booster service area, at the licensee's risk of interference. The booster station must be capable of providing substantial service within the designated booster service area.

*Broadband Radio Service (BRS).* A radio service using certain frequencies in the 2150–2162 and 2496–2690 MHz bands which can be used to provide fixed and mobile services, except for aeronautical services.

*Broadcast services.* This term shall have the same meaning as that for "broadcasting" in section 3(6) of the Communications Act of 1934, *i.e.*, "the dissemination of radio communications intended to be received by the public, directly or by the intermediary of relay stations." 47 U.S.C. 153(6).

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*Commence operations.* A 600 MHz Band licensee is deemed to commence operations when it begins pre-launch site activation and commissioning tests using permanent base station equipment, antennas and/or tower locations as part of its site and system optimization in the area of its planned commercial service infrastructure deployment.

*Documented complaint.* A complaint that a party is suffering from non-consensual interference. A documented complaint must contain a certification that the complainant has contacted the operator of the allegedly offending facility and tried to resolve the situation prior to filing. The complaint must then specify the nature of the interference, whether the interference is constant or intermittent, when the interference began and the site(s) most likely to be causing the interference. The complaint should be accompanied by a videotape or other evidence showing the effects of the interference. The complaint must contain a motion for a temporary order to have the interfering station cease transmitting. The complaint must be filed with the Secretary's office and served on the allegedly offending party.

*Educational Broadband Service (EBS).* A radiocommunication service licensed under this part for the frequency bands specified in § 27.5(i).

*Effective Radiated Power (ERP) (in a given direction).* The product of the power supplied to the antenna and its gain relative to a half-wave dipole in a given direction.

*Equivalent Isotropically Radiated Power (EIRP).* The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna.

*Fixed service.* A radio communication service between specified fixed points.

*Fixed station.* A station in the fixed service.

*Land mobile service.* A mobile service between base stations and land mobile stations, or between land mobile stations.

*Land mobile station.* A mobile station in the land mobile service capable of surface movement within the geographic limits of a country or continent.

*Land station.* A station in the mobile service not intended to be used while in motion.

*Lower Band Segment (LBS).* Segment of the BRS/EBS band consisting of channels in the frequencies 2496–2572 MHz.

*Middle Band Segment (MBS).* Segment of the BRS/EBS band consisting of channels in the frequencies 2572–2614 MHz.

*Mobile service.* A radio communication service between mobile and land stations, or between mobile stations.

*Mobile station.* A station in the mobile service intended to be used while in motion or during halts at unspecified points.

*National Geodetic Reference System (NGRS).* The name given to all geodetic control data contained in the National Geodetic Survey (NGS) data base. (Source: National Geodetic Survey, U.S. Department of Commerce)

*Point-to-point Broadband station.* A Broadband station that transmits a highly directional signal from a fixed transmitter location to a fixed receive location.

*Portable device.* Transmitters designed to be used within 20 centimeters of the body of the user.

*Post-auction transition period.* The 39-month period commencing upon the public release of the Channel Reassignment Public Notice as defined in § 73.3700(a) of this chapter.

*Public Safety Broadband Licensee.* The licensee of the Public Safety Broadband License in the 763–768 MHz and 793–798 MHz bands.

*Radiodetermination.* The determination of the position, velocity and/or other characteristics of an object, or the obtaining of information relating to these parameters, by means of the propagation properties of radio waves.

*Radiolocation.* Radiodetermination used for purposes other than those of radionavigation.

*Radiolocation land station.* A station in the radiolocation service not intended to be used while in motion.

*Radiolocation mobile station.* A station intended to be used while in motion or during halts at unspecified points.

*Radionavigation.* Radiodetermination used for the purpose of navigation, including obstruction warning.

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*Remote control.* Operation of a station by a designated person at a control position from which the transmitter is not visible but where suitable control and telemetering circuits are provided which allow the performance of the essential functions that could be performed at the transmitter.

*Satellite Digital Audio Radio Service (satellite DARS).* A radiocommunication service in which compact disc quality programming is digitally transmitted by one or more space stations.

*Sectorization.* The use of an antenna system at any broadband station, booster station and/or response station hub that is capable of simultaneously transmitting multiple signals over the same frequencies to different portions of the service area and/or simultaneously receiving multiple signals over the same frequencies from different portions of the service area.

*Spectrum Act.* The term *Spectrum Act* means Title VI of the Middle Class Tax Relief and Job Creation Act of 2012 (Pub. L. 112-96).

*Studio to transmitter link (STL).* A directional path used to transmit a signal from a station's studio to its transmitter.

*Temporary fixed broadband station.* A broadband station used for the transmission of material from temporary unspecified points to a broadband station.

*Time division multiple access (TDMA).* A multiple access technique whereby users share a transmission medium by being assigned and using (one-at-a-time) for a limited number of time division multiplexed channels; implies that several transmitters use one channel for sending several bit streams.

*Time division multiplexing (TDM).* A multiplexing technique whereby two or more channels are derived from a transmission medium by dividing access to the medium into sequential intervals. Each channel has access to the entire bandwidth of the medium during its interval. This implies that one transmitter uses one channel to send several bit streams of information.

*Unattended operation.* Operation of a station by automatic means whereby the transmitter is turned on and off and performs its functions without attention by a designated person.

*Universal Licensing System.* The Universal Licensing System (ULS) is the consolidated database, application filing system, and processing system for all Wireless Radio Services. ULS supports electronic filing of all applications and related documents by applicants and licensees in the Wireless Radio Services, and provides public access to licensing information.

*Upper 700 MHz D Block license.* The Upper 700 MHz D Block license is the nationwide license associated with the 758-763 MHz and 788-793 MHz bands.

*Upper Band Segment (UBS).* Segment of the BRS/EBS band consisting of channels in the frequencies 2614-2690 MHz

*Wireless communications service.* A radiocommunication service licensed pursuant to this part for the frequency bands specified in § 27.5.

[62 FR 9658, Mar. 3, 1997]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 27.4, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at [www.govinfo.gov](http://www.govinfo.gov).

### § 27.5 Frequencies.

(a) *2305-2320 MHz and 2345-2360 MHz bands.* The following frequencies are available for WCS in the 2305-2320 MHz and 2345-2360 MHz bands:

(1) Two paired channel blocks are available for assignment on a Major Economic Area basis as follows:

Block A: 2305-2310 and 2350-2355 MHz; and  
Block B: 2310-2315 and 2355-2360 MHz.

(2) Two unpaired channel blocks are available for assignment on a Regional Economic Area Grouping basis as follows:

Block C: 2315-2320 MHz; and  
Block D: 2345-2350 MHz.

(b) *746-758 MHz, 775-788 MHz, and 805-806 MHz bands.* The following frequencies are available for licensing pursuant to this part in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands:

(1) Two paired channels of 1 megahertz each are available for assignment in Block A in the 757-758 MHz and 787-788 MHz bands.

(2) Two paired channels of 1 megahertz each are available for assignment

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in Block B in the 775–776 MHz and 805–806 MHz bands.

(3) Two paired channels of 11 megahertz each are available for assignment in Block C in the 746–757 MHz and 776–787 MHz bands. In the event that no licenses for two channels in this Block C are assigned based on the results of the first auction in which such licenses were offered because the auction results do not satisfy the applicable reserve price, the spectrum in the 746–757 MHz and 776–787 MHz bands will instead be made available for assignment at a subsequent auction as follows:

(i) Two paired channels of 6 megahertz each available for assignment in Block C1 in the 746–752 MHz and 776–782 MHz bands.

(ii) Two paired channels of 5 megahertz each available for assignment in Block C2 in the 752–757 MHz and 782–787 MHz bands.

(c) *698–746 MHz band.* The following frequencies are available for licensing pursuant to this part in the 698–746 MHz band:

(1) Three paired channel blocks of 12 megahertz each are available for assignment as follows:

Block A: 698–704 MHz and 728–734 MHz;  
Block B: 704–710 MHz and 734–740 MHz; and  
Block C: 710–716 MHz and 740–746 MHz.

(2) Two unpaired channel blocks of 6 megahertz each are available for assignment as follows:

Block D: 716–722 MHz; and  
Block E: 722–728 MHz.

(d) *1390–1392 MHz band.* The 1390–1392 MHz band is available for assignment on a Major Economic Area basis.

(e) *The paired 1392–1395 and 1432–1435 MHz bands.* The paired 1392–1395 MHz and 1432–1435 MHz bands are available for assignment on an Economic Area Grouping basis as follows: Block A: 1392–1393.5 MHz and 1432–1433.5 MHz; and Block B: 1393.5–1395 MHz and 1433.5–1435 MHz.

(f) *1670–1675 MHz band.* The 1670–1675 MHz band is available for assignment on a nationwide basis.

(g) [Reserved]

(h) *1710–1755 MHz, 2110–2155 MHz, 1695–1710 MHz, 1755–1780 MHz, and 2155–2180 MHz bands.* The following frequencies are available for licensing pursuant to this part in the 1710–1755 MHz, 2110–2155

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MHz, 1695–1710 MHz, 1755–1780 MHz, and 2155–2180 MHz bands:

(1) Four paired channel blocks of 10 megahertz each are available for assignment as follows:

Block A: 1710–1720 MHz and 2110–2120 MHz;  
Block B: 1720–1730 MHz and 2120–2130 MHz;  
Block F: 1745–1755 MHz and 2145–2155 MHz;  
and  
Block J: 1770–1780 MHz and 2170–2180 MHz.

(2) Six paired channel blocks of 5 megahertz each are available for assignment as follows:

Block C: 1730–1735 MHz and 2130–2135 MHz;  
Block D: 1735–1740 MHz and 2135–2140 MHz;  
Block E: 1740–1745 MHz and 2140–2145 MHz;  
Block G: 1755–1760 MHz and 2155–2160 MHz;  
Block H: 1760–1765 MHz and 2160–2165 MHz;  
and  
Block I: 1765–1770 MHz and 2165–2170 MHz.

(3) One unpaired block of 5 megahertz and one unpaired block of 10 megahertz each are available for assignment as follows:

Block A1: 1695–1700 MHz  
Block B1: 1700–1710 MHz.

NOTE TO PARAGRAPH (h). Licenses to operate in the 1695–1710 MHz and 1755–1780 MHz bands are subject to the condition that the licensee must not cause harmful interference to an incumbent Federal entity relocating from these bands under an approved Transition Plan. This condition remains in effect until NTIA terminates the applicable authorization of the incumbent Federal entity.

(i) *Frequency assignments for the BRS/EBS band.* (1) Pre-transition frequency assignments.

BRS Channel 1: 2150–2156 MHz or 2496–2500 MHz  
BRS Channel 2: 2156–2162 MHz or 2686–2690 MHz  
BRS Channel 2A: 2156–2160 MHz  
EBS Channel A1: 2500–2506 MHz  
EBS Channel B1: 2506–2512 MHz  
EBS Channel A2: 2512–2518 MHz  
EBS Channel B2: 2518–2524 MHz  
EBS Channel A3: 2524–2530 MHz  
EBS Channel B3: 2530–2536 MHz  
EBS Channel A4: 2536–2542 MHz  
EBS Channel B4: 2542–2548 MHz  
EBS Channel C1: 2548–2554 MHz  
EBS Channel D1: 2554–2560 MHz  
EBS Channel C2: 2560–2566 MHz  
EBS Channel D2: 2566–2572 MHz  
EBS Channel C3: 2572–2578 MHz  
EBS Channel D3: 2578–2584 MHz  
EBS Channel C4: 2584–2590 MHz  
EBS Channel D4: 2590–2596 MHz  
BRS Channel E1: 2596–2602 MHz  
BRS Channel F1: 2602–2608 MHz  
BRS Channel E2: 2608–2614 MHz  
BRS Channel F2: 2614–2620 MHz

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BRS Channel E3: 2620-2626 MHz  
BRS Channel F3: 2626-2632 MHz  
BRS Channel E4: 2632-2638 MHz  
BRS Channel F4: 2638-2644 MHz  
EBS Channel G1: 2644-2650 MHz  
BRS Channel H1: 2650-2656 MHz  
EBS Channel G2: 2656-2662 MHz  
BRS Channel H2: 2662-2668 MHz  
EBS Channel G3: 2668-2674 MHz  
BRS Channel H3: 2674-2680 MHz  
EBS Channel G4: 2680-2686 MHz  
I Channels: 2686-2690 MHz

(2) *Post transition frequency assignments.* The frequencies available in the Broadband Radio Service (BRS) and Educational Broadband Service (EBS) are listed in this section in accordance with the frequency allocations table of § 2.106 of this chapter.

(i) Lower Band Segment (LBS): The following channels shall constitute the Lower Band Segment:

BRS Channel 1: 2496-2502 MHz or 2150-2156 MHz  
EBS Channel A1: 2502-2507.5 MHz  
EBS Channel A2: 2507.5-2513 MHz  
EBS Channel A3: 2513-2518.5 MHz  
EBS Channel B1: 2518.5-2524 MHz  
EBS Channel B2: 2524-2529.5 MHz  
EBS Channel B3: 2529.5-2535 MHz  
EBS Channel C1: 2535-2540.5 MHz  
EBS Channel C2: 2540.5-2546 MHz  
EBS Channel C3: 2546-2551.5 MHz  
EBS Channel D1: 2551.5-2557 MHz  
EBS Channel D2: 2557-2562.5 MHz  
EBS Channel D3: 2562.5-2568 MHz  
EBS Channel JA1: 2568.00000-2568.33333 MHz  
EBS Channel JA2: 2568.33333-2568.66666 MHz  
EBS Channel JA3: 2568.66666-2569.00000 MHz  
EBS Channel JB1: 2569.00000-2569.33333 MHz  
EBS Channel JB2: 2569.33333-2569.66666 MHz  
EBS Channel JB3: 2569.66666-2570.00000 MHz  
EBS Channel JC1: 2570.00000-2570.33333 MHz  
EBS Channel JC2: 2570.33333-2570.66666 MHz  
EBS Channel JC3: 2570.66666-2571.00000 MHz  
EBS Channel JD1: 2571.00000-2571.33333 MHz  
EBS Channel JD2: 2571.33333-2571.66666 MHz  
EBS Channel JD3: 2571.66666-2572.00000 MHz

(ii) Middle Band Segment (MBS): The following channels shall constitute the Middle Band Segment:

EBS Channel A4: 2572-2578 MHz  
EBS Channel B4: 2578-2584 MHz  
EBS Channel C4: 2584-2590 MHz  
EBS Channel D4: 2590-2596 MHz  
EBS Channel G4: 2596-2602 MHz  
BRS/EBS Channel F4: 2602-2608 MHz  
BRS/EBS Channel E4: 2608-2614 MHz

(iii) Upper Band Segment (UBS): The following channels shall constitute the Upper Band Segment:

BRS Channel KH1: 2614.00000-2614.33333 MHz.

BRS Channel KH2: 2614.33333-2614.66666 MHz.  
BRS Channel KH3: 2614.66666-2615.00000 MHz.  
EBS Channel KG1: 2615.00000-2615.33333 MHz.  
EBS Channel KG2: 2615.33333-2615.66666 MHz.  
EBS Channel KG3: 2615.66666-2616.00000 MHz.  
BRS Channel KF1: 2616.00000-2616.33333 MHz.  
BRS Channel KF2: 2616.33333-2616.66666 MHz.  
BRS Channel KF3: 2616.66666-2617.00000 MHz.  
BRS Channel KE1: 2617.00000-2617.33333 MHz.  
BRS Channel KE2: 2617.33333-2617.66666 MHz.  
BRS Channel KE3: 2617.66666-2618.00000 MHz.  
BRS Channel 2: 2618-2624 MHz or 2156-2162 MHz.

BRS Channel 2A: 2618-2624 MHz or 2156-2160 MHz.

BRS/EBS Channel E1: 2624-2629.5 MHz.  
BRS/EBS Channel E2: 2629.5-2635 MHz.  
BRS/EBS Channel E3: 2635-2640.5 MHz.  
BRS/EBS Channel F1: 2640.5-2646 MHz.  
BRS/EBS Channel F2: 2646-2651.5 MHz.  
BRS/EBS Channel F3: 2651.5-2657 MHz.  
BRS Channel H1: 2657-2662.5 MHz.  
BRS Channel H2: 2662.5-2668 MHz.  
BRS Channel H3: 2668-2673.5 MHz.  
EBS Channel G1: 2673.5-2679 MHz.  
EBS Channel G2: 2679-2684.5 MHz.  
EBS Channel G3: 2684.5-2690 MHz.

NOTE TO PARAGRAPH (i)(2): No 125 kHz channels are provided for channels in operation in this service. The 125 kHz channels previously associated with these channels have been reallocated to Channel G3 in the upper band segment.

(3) [Reserved]

(4) A temporary fixed broadband station may use any available broadband channel on a secondary basis, except that operation of temporary fixed broadband stations is not allowed within 56.3 km (35 miles) of Canada.

(5)(i) A point-to-point EBS station on the E and F-channel frequencies, may be involuntarily displaced by a BRS applicant or licensee, provided that suitable alternative spectrum is available and that the BRS entity bears the expenses of the migration. Suitability of spectrum will be determined on a case-by-base basis; at a minimum, the alternative spectrum must be licensable by broadband operators on a primary basis (although it need not be specifically allocated to the broadband service), and must provide a signal that is equivalent to the prior signal in picture quality and reliability, unless the broadband licensee will accept an inferior signal. Potential expansion of the BRS licensee may be considered in determining whether alternative available spectrum is suitable.

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(ii) If suitable alternative spectrum is located pursuant to paragraph (h)(6)(i) of this section, the initiating party must prepare and file the appropriate application for the new spectrum, and must simultaneously serve a copy of the application on the EBS licensee to be moved. The initiating party will be responsible for all costs connected with the migration, including purchasing, testing and installing new equipment, labor costs, reconfiguration of existing equipment, administrative costs, legal and engineering expenses necessary to prepare and file the migration application, and other reasonable documented costs. The initiating party must secure a bond or establish an escrow account to cover reasonable incremental increase in ongoing expenses that may fall upon the migrated licensee. The bond or escrow account should also account for the possibility that the initiating party subsequently becomes bankrupt. If it becomes necessary for the Commission to assess the sufficiency of a bond or escrow amount, it will take into account such factors as projected incremental increase in electricity or maintenance expenses, or relocation expenses, as relevant in each case.

(iii) The EBS licensee to be moved will have a 60-day period in which to oppose the involuntary migration. The broadband party should state its opposition to the migration with specificity, including engineering and other challenges, and a comparison of the present site and the proposed new site. If involuntary migration is granted, the new facilities must be operational before the initiating party will be per-

mitted to begin its new or modified operations. The migration must not disrupt the broadband licensee's provision of service, and the broadband licensee has the right to inspect the construction or installation work.

(j) *2000–2020 MHz and 2180–2200 MHz bands.* The following frequencies are available for licensing pursuant to this part in the 2000–2020 MHz and 2180–2200 MHz (AWS-4) bands:

(1) Two paired channel blocks of 10 megahertz each are available for assignment as follows: Block A: 2000–2010 MHz and 2180–2190 MHz; and Block B: 2010–2020 MHz and 2190–2200 MHz.

(2) [Reserved]

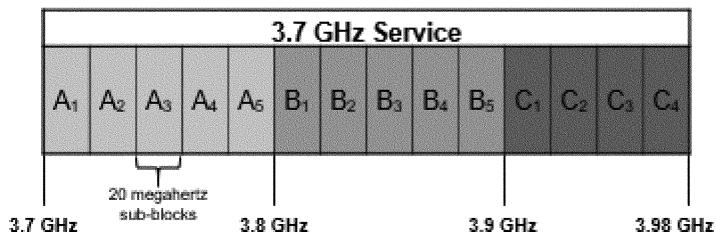
(k) *1915–1920 MHz and 1995–2000 MHz bands.* The paired 1915–1920 MHz and 1995–2000 MHz bands are available for assignment on an Economic Area (EA) basis.

(l) *600 MHz band.* The 600 MHz band (617–652 MHz and 663–698 MHz) has seven pairs of 5 megahertz channel blocks available for assignment on a Partial Economic Area basis as follows:

*Block A: 617–622 MHz and 663–668 MHz;  
Block B: 622–627 MHz and 668–673 MHz;  
Block C: 627–632 MHz and 673–678 MHz;  
Block D: 632–637 MHz and 678–683 MHz;  
Block E: 637–642 MHz and 683–688 MHz;  
Block F: 642–647 MHz and 688–693 MHz; and  
Block G: 647–652 MHz and 693–698 MHz.*

(m) *3700–3980 MHz band.* The 3.7 GHz Service is comprised of Block A (3700–3800 MHz); Block B (3800–3900 MHz); and Block C (3900–3980 MHz). These blocks are licensed as 14 individual 20 megahertz sub-blocks available for assignment in the contiguous United States on a Partial Economic Area basis, see § 27.6(m), as follows:

Figure 1 to paragraph (m)



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(n) *900 MHz broadband.* The paired 897.5–900.5 MHz and 936.5–939.5 MHz bands are available for assignment on a geographic basis. For operations in the 897.5–900.5 MHz and 936.5–939.5 MHz bands (designated as Channels 120–360 in section 90.613 of this chapter), no new applications will be accepted in transitioned markets for narrowband systems under part 90, subpart S of this chapter.

(o) *3450–3550 MHz band.* The 3.45 GHz Service is licensed as ten individual 10 megahertz blocks available for assignment in the contiguous United States on a Partial Economic Area basis, *see §27.6(n).*

[62 FR 9658, Mar. 3, 1997]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §27.5, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at [www.govinfo.gov](http://www.govinfo.gov).

**§27.6 Service areas.**

(a) *Composition of service areas.* WCS service areas include Economic Areas (EAs), Major Economic Areas (MEAs),

Regional Economic Area Groupings (REAGs), cellular markets comprising Metropolitan Statistical Areas (MSAs) and Rural Service Areas (RSAs), and a nationwide area. MEAs and REAGs are defined in the Table immediately following paragraph (a)(1) of this section. Both MEAs and REAGs are based on the U.S. Department of Commerce's EAs. *See 60 FR 13114 (March 10, 1995).* In addition, the Commission shall separately license Guam and the Northern Mariana Islands, Puerto Rico and the United States Virgin Islands, American Samoa, and the Gulf of Mexico, which have been assigned Commission-created EA numbers 173–176, respectively. The nationwide area is composed of the contiguous 48 states, Alaska, Hawaii, the Gulf of Mexico, and the U.S. territories. Maps of the EAs, MEAs, MSAs, RSAs, and REAGs are available on the FCC's website at [www.fcc.gov/auctions](http://www.fcc.gov/auctions) through the "Maps" submenu.

(1) The 52 MEAs are composed of one or more EAs and the 12 REAGs are composed of one or more MEAs, as defined in the table below:

REAGs	MEAs	EAs
1 (Northeast) .....	1 (Boston) .....	1–3.
	2 (New York City) .....	4–7, 10.
	3 (Buffalo) .....	8.
	4 (Philadelphia) .....	11–12.
	5 (Washington) .....	13–14.
	6 (Richmond) .....	15–17, 20.
	7 (Charlotte-Greensboro-Greenville-Raleigh) .....	18–19, 21–26, 41–42, 46.
	8 (Atlanta) .....	27–28, 37–40, 43.
	9 (Jacksonville) .....	29, 35.
	10 (Tampa-St. Petersburg-Orlando) .....	30, 33–34.
	11 (Miami) .....	31–32.
	12 (Pittsburgh) .....	9, 52–53.
	13 (Cincinnati-Dayton) .....	48–50.
	14 (Columbus) .....	51.
	15 (Cleveland) .....	54–55.
	16 (Detroit) .....	56–58, 61–62.
	17 (Milwaukee) .....	59–60, 63, 104–105, 108.
	18 (Chicago) .....	64–66, 68, 97, 101.
	19 (Indianapolis) .....	67.
	20 (Minneapolis-St. Paul) .....	106–107, 109–114, 116.
	21 (Des Moines-Quad Cities) .....	100, 102–103, 117.
	22 (Knoxville) .....	44–45.
	23 (Louisville-Lexington-Evansville) .....	47, 69–70, 72.
	24 (Birmingham) .....	36, 74, 78–79.
	25 (Nashville) .....	71.
	26 (Memphis-Jackson) .....	73, 75–77.
	27 (New Orleans-Baton Rouge) .....	80–85.
	28 (Little Rock) .....	90–92, 95.
	29 (Kansas City) .....	93, 99, 123.
	30 (St. Louis) .....	94, 96, 98.
	31 (Houston) .....	86–87, 131.
	32 (Dallas-Fort Worth) .....	88–89, 127–130, 135, 137–138.
	33 (Denver) .....	115, 140–143.
	34 (Omaha) .....	118–121.
	35 (Wichita) .....	122.
	36 (Tulsa) .....	124.

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REAGs	MEAs	EAs
6 (West) .....	37 (Oklahoma City) .....	125–126.
	38 (San Antonio) .....	132–134.
	39 (El Paso-Albuquerque) .....	136, 139, 155–157.
	40 (Phoenix) .....	154, 158–159.
	41 (Spokane-Billings) .....	144–147, 168.
	42 (Salt Lake City) .....	148–150, 152.
	43 (San Francisco-Oakland-San Jose) .....	151, 162–165.
	44 (Los Angeles-San Diego) .....	153, 160–161.
	45 (Portland) .....	166–167.
	46 (Seattle) .....	169–170.
7 (Alaska) .....	47 (Alaska) .....	171.
8 (Hawaii) .....	48 (Hawaii) .....	172.
9 (Guam and the Northern Mariana Islands). .....	49 (Guam and the Northern Mariana Islands). .....	173.
10 (Puerto Rico and U.S. Virgin Islands) .....	50 (Puerto Rico and U.S. Virgin Islands) .....	174.
11 (American Samoa) .....	51 (American Samoa) .....	175.
12 (Gulf of Mexico) .....	52 (Gulf of Mexico) .....	176.

(2) The Gulf of Mexico EA extends from 12 nautical miles off the U.S. Gulf coast outward into the Gulf.

(b) *746–758 MHz, 775–788 MHz, and 805–806 MHz bands.* WCS service areas for the 746–758 MHz, 775–788 MHz, and 805–806 MHz bands are as follows.

(1) Service areas for Block A in the 757–758 MHz and 787–788 MHz bands and Block B in the 775–776 MHz and 805–806 MHz bands are based on Major Economic Areas (MEAs), as defined in paragraphs (a)(1) and (a)(2) of this section.

(2) Service areas for Block C in the 746–757 MHz and 776–787 MHz bands are based on Regional Economic Area Groupings (REAGs) as defined by paragraph (a) of this section. In the event that no licenses with respect to service areas for Block C in the 746–757 MHz and 776–787 MHz bands are assigned based on the results of the first auction in which such licenses are offered because the auction results do not satisfy the applicable reserve price, then service areas for the spectrum at 746–757 MHz and 776–787 MHz will instead be available for assignment as follows:

(i) Service areas for Block C1 in the 746–752 MHz and 776–782 MHz bands are based on Economic Areas (EAs) as defined in paragraph (a) of this section.

(ii) Service areas for Block C2 in the 752–757 MHz and 782–787 MHz bands are based on Regional Economic Area Groupings (REAGs) as defined by paragraph (a) of this section.

(c) *698–746 MHz band.* WCS service areas for the 698–746 MHz band are as follows:

(1) Service areas for Block A in the 698–704 MHz and 728–734 MHz bands and Block E in the 722–728 MHz band are based on Economic Areas (EAs) as defined in paragraph (a) of this section.

(2) Service areas for Block B in the 704–710 MHz and 734–740 MHz bands and Block C in the 710–716 MHz and 740–746 MHz bands are based on cellular markets comprising Metropolitan Statistical Areas (MSAs) and Rural Service Areas (RSAs) as defined by Public Notice Report No. CL-92-40 “Common Carrier Public Mobile Services Information, Cellular MSA/RSA Markets and Counties,” dated January 24, 1992, DA 92-109, 7 FCC Rcd 742 (1992), with the following modifications:

(i) The service areas of cellular markets that border the U.S. coastline of the Gulf of Mexico extend 12 nautical miles from the U.S. Gulf coastline.

(ii) The service area of cellular market 306 that comprises the water area of the Gulf of Mexico extends from 12 nautical miles off the U.S. Gulf coast outward into the Gulf.

(3) Service areas for Block D in the 716–722 MHz band are based on Economic Area Groupings (EAGs) as defined by the Federal Communications Commission. See 62 FR 15978 (April 3, 1997) extended with the Gulf of Mexico. See also paragraphs (a)(1) and (2) of this section and 62 FR 9636 (March 3, 1997), in which the Commission created an additional four economic area-like areas for a total of 176. Maps of the EAGs and the FEDERAL REGISTER Notice that established the 172 Economic

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Areas (EAs) are available for public inspection through the Federal Communications Commission's Reference Information Center. These maps and data are also available on the FCC website

at <https://www.fcc.gov/oet/info/maps/areas/>.

(i) There are 6 EAGs, which are composed of multiple EAs as defined in the table below:

Economic area groupings	Name	Economic areas
EAG001 .....	Northeast .....	1–11, 54.
EAG002 .....	Mid-Atlantic .....	12–26, 41, 42, 44–53, 70.
EAG003 .....	Southeast .....	27–40, 43, 69, 71–86, 88–90, 95, 96, 174, 176 (part).
EAG004 .....	Great Lakes .....	55–68, 97, 100–109.
EAG005 .....	Central/Mountain .....	87, 91–94, 98, 99, 110–146, 148, 149, 152, 154–159, 176 (part).
EAG006 .....	Pacific .....	147, 150, 151, 153, 160–173, 175.

NOTE 1 TO PARAGRAPH (c)(3)(i): Economic Area Groupings are defined by the Federal Communications Commission; *see* 62 FR 15978 (April 3, 1997) extended with the Gulf of Mexico.

NOTE 2 TO PARAGRAPH (c)(3)(i): Economic Areas are defined by the Regional Economic Analysis Division, Bureau of Economic Analysis, U.S. Department of Commerce February 1995 and extended by the Federal Communications Commission, *see* 62 FR 9636 (March 3, 1997).

(ii) For purposes of paragraph (c)(3)(i) of this section, EA 176 (the Gulf of Mexico) will be divided between EAG003 (the Southeast EAG) and EAG005 (the Central/Mountain EAG) in accordance with the configuration of the Eastern/Central and Western Planning Area established by the Mineral Management Services Bureau of the Department of the Interior (MMS). That portion of EA 176 contained in the Eastern and Central Planning Areas as defined by MMS will be included in EAG003; that portion of EA 176 contained in the Western Planning Area as defined by MMS will be included in EAG005. Maps of these areas may be found on the MMS Web site: <http://www.gomr.mms.gov/homepg/offshore/offshore.html>.

(d) *1390–1392 MHz band.* Service areas for the 1390–1392 MHz band is based on Major Economic Areas (MEAs), as defined in paragraphs (a)(1) and (a)(2) of this section.

(e) *The paired 1392–1395 and 1432–1435 MHz bands.* Service areas for the paired 1392–1395 and 1432–1435 MHz bands are as follows. Service areas for Block A in the 1392–1393.5 MHz and 1432–1433.5 MHz bands and Block B in the 1393.5–1395 MHz and 1433.5–1435 MHz bands are based on Economic Area Groupings

(EAGs) as defined in paragraph (c)(3) of this section.

(f) *1670–1675 MHz band.* Service areas for the 1670–1675 MHz band are available on a nationwide basis.

(g) [Reserved]

(h) *1710–1755 and 2110–2155 MHz bands.* AWS service areas for the 1710–1755 MHz and 2110–2155 MHz bands are as follows:

(1) Service areas for Block A (1710–1720 MHz and 2110–2120 MHz) are based on cellular markets comprising Metropolitan Statistical Areas (MSAs) and Rural Service Areas (RSAs) as defined by Public Notice Report No. CL-92-40 "Common Carrier Public Mobile Services Information, Cellular MSA/RSA Markets and Counties," dated January 24, 1992, DA 92-109, 7 FCC Rcd 742 (1992), with the following modifications:

(i) The service areas of cellular markets that border the U.S. coastline of the Gulf of Mexico extend 12 nautical miles from the U.S. Gulf coastline.

(ii) The service area of cellular market 306 that comprises the water area of the Gulf of Mexico extends from 12 nautical miles off the U.S. Gulf coast outward into the Gulf.

(2) Service areas for Blocks B (1720–1730 MHz and 2120–2130 MHz) and C (1730–1735 MHz and 2130–2135 MHz) are based on Economic Areas (EAs) as defined in paragraph (a) of this section.

(3) Service areas for blocks D (1735–1740 MHz and 2135–2140 MHz), E (1740–1745 MHz and 2140–2145 MHz) and F (1745–1755 MHz and 2145–2155 MHz) are based on Regional Economic Area Groupings (REAGs) as defined by paragraph (a) of this section.

(i) *2000–2020 MHz and 2180–2200 MHz bands.* AWS service areas for the 2000–

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2020 MHz and 2180–2200 MHz bands are based on Economic Areas (EAs) as defined in paragraph (a) of this section.

(j) *1915–1920 MHz and 1995–2000 MHz bands.* AWS service areas for the 1915–1920 MHz and 1995–2000 MHz bands are based on Economic Areas (EAs) as defined in paragraph (a) of this section.

(k) *1695–1710 MHz, 1755–1780 MHz, and 2155–2180 MHz bands.* AWS service areas for the 1695–1710 MHz, 1755–1780 MHz, and 2155–2180 MHz bands are as follows:

(1) Service areas for Block G (1755–1760 MHz and 2155–2160 MHz) are based on cellular markets comprising Metropolitan Statistical Areas (MSAs) and Rural Service Areas (RSAs) as defined by Public Notice Report No. CL-92-40 “Common Carrier Public Mobile Services Information, Cellular MSA/RSA Markets and Counties,” dated January 24, 1992, DA 92-109, 7 FCC Rcd 742 (1992), with the following modifications:

(i) The service areas of cellular markets that border the U.S. coastline of the Gulf of Mexico extend 12 nautical miles from the U.S. Gulf coastline.

(ii) The service area of cellular market 306 that comprises the water area of the Gulf of Mexico extends from 12 nautical miles off the U.S. Gulf coast outward into the Gulf.

(2) Service areas for Blocks H (1760–1765 MHz and 2160–2165 MHz), I (1765–1770 MHz and 2165–2170 MHz), J (1770–1780 MHz and 2170–2180 MHz), A1 (1695–1700 MHz) and B1 (1700–1710 MHz) are based on Economic Areas (EAs) as defined in paragraph (a) of this section.

(l) *600 MHz band.* Service areas for the 600 MHz band are based on Partial Economic Areas (PEAs) as defined by *Wireless Telecommunications Bureau Provides Details About Partial Economic Areas*, Public Notice, 29 FCC Rcd 6491, App. B (2014). The service areas of PEAs that border the U.S. coastline of the Gulf of Mexico extend 12 nautical miles from the U.S. Gulf coastline. The service area of the Gulf of Mexico PEA (PEA 416) that comprises the water area of the Gulf of Mexico extends from 12 nautical miles off the U.S. Gulf coast outward into the Gulf.

(m) *3700–3980 MHz Band.* Service areas in the 3.7 GHz Service are based on Partial Economic Areas (PEAs) as defined by appendix A to this subpart (see *Wireless Telecommunications Bureau*

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*Provides Details About Partial Economic Areas*, DA 14-759, Public Notice, released June 2, 2014, for more information). The 3.7 GHz Service will be licensed in the contiguous United States, i.e., the contiguous 48 states and the District of Columbia as defined by Partial Economic Areas Nos. 1–41, 43–211, 213–263, 265–297, 299–359, and 361–411. The service areas of PEAs that border the U.S. coastline of the Gulf of Mexico extend 12 nautical miles from the U.S. Gulf coastline. The 3.7 GHz Service will not be licensed for the following PEAs:

TABLE 3 TO PARAGRAPH (m)

PEA No.	PEA name
42 .....	Honolulu, HI.
212 .....	Anchorage, AK.
264 .....	Kodiak, AK.
298 .....	Fairbanks, AK.
360 .....	Juneau, AK.
412 .....	Puerto Rico.
413 .....	Guam-Northern Mariana Islands.
414 .....	US Virgin Islands.
415 .....	American Samoa.

(n) *3450–3550 MHz Band.* Service areas in the 3.45 GHz Service are based on Partial Economic Areas (PEAs) as defined by appendix A to this subpart.

[62 FR 9658, Mar. 3, 1997]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 27.6, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at [www.govinfo.gov](http://www.govinfo.gov).

### § 27.9 Operation of certificated signal boosters.

Individuals and non-individuals may operate certificated Consumer Signal Boosters on frequencies regulated under this part provided that such operation complies with all applicable rules under this part and § 20.21 of this chapter. Failure to comply with all applicable rules voids the authority to operate a signal booster.

[78 FR 21564, Apr. 11, 2013]

### APPENDIX A TO SUBPART A OF PART 27— LIST OF PARTIAL ECONOMIC AREAS WITH CORRESPONDING COUNTIES

PEA No.	Federal Information Processing System No.	County name	State
1 .....	09001	Fairfield .....	CT

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PEA No.	Federal Information Processing System No.	County name	State	PEA No.	Federal Information Processing System No.	County name	State
1 .....	09003	Hartford .....	CT	4 .....	06097	Sonoma .....	CA
1 .....	09005	Litchfield .....	CT	4 .....	06099	Stanislaus .....	CA
1 .....	09007	Middlesex .....	CT	5 .....	11001	District of Columbia .....	DC
1 .....	09009	New Haven .....	CT	5 .....	24003	Anne Arundel .....	MD
1 .....	09011	New London .....	CT	5 .....	24005	Baltimore .....	MD
1 .....	09013	Tolland .....	CT	5 .....	24510	Baltimore City .....	MD
1 .....	09015	Windham .....	CT	5 .....	24009	Calvert .....	MD
1 .....	34003	Bergen .....	NJ	5 .....	24011	Caroline .....	MD
1 .....	34013	Essex .....	NJ	5 .....	24013	Carroll .....	MD
1 .....	34017	Hudson .....	NJ	5 .....	24017	Charles .....	MD
1 .....	34019	Hunterdon .....	NJ	5 .....	24019	Dorchester .....	MD
1 .....	34021	Mercer .....	NJ	5 .....	24025	Harford .....	MD
1 .....	34023	Middlesex .....	NJ	5 .....	24027	Howard .....	MD
1 .....	34025	Monmouth .....	NJ	5 .....	24029	Kent .....	MD
1 .....	34027	Morris .....	NJ	5 .....	24031	Montgomery .....	MD
1 .....	34029	Ocean .....	NJ	5 .....	24033	Prince George's .....	MD
1 .....	34031	Passaic .....	NJ	5 .....	24035	Queen Anne's .....	MD
1 .....	34035	Somerset .....	NJ	5 .....	24037	St. Mary's .....	MD
1 .....	34037	Sussex .....	NJ	5 .....	24041	Talbot .....	MD
1 .....	34039	Union .....	NJ	5 .....	51510	Alexandria City .....	VA
1 .....	34041	Warren .....	NJ	5 .....	51013	Arlington .....	VA
1 .....	36005	Bronx .....	NY	5 .....	51059	Fairfax .....	VA
1 .....	36027	Dutchess .....	NY	5 .....	51600	Fairfax City .....	VA
1 .....	36047	Kings .....	NY	5 .....	51610	Falls Church City .....	VA
1 .....	36059	Nassau .....	NY	5 .....	51107	Loudoun .....	VA
1 .....	36061	New York .....	NY	5 .....	51683	Manassas City .....	VA
1 .....	36071	Orange .....	NY	5 .....	51685	Manassas Park City .....	VA
1 .....	36079	Putnam .....	NY	5 .....	51153	Prince William .....	VA
1 .....	36081	Queens .....	NY	6 .....	10001	Kent .....	DE
1 .....	36085	Richmond .....	NY	6 .....	10003	New Castle .....	DE
1 .....	36087	Rockland .....	NY	6 .....	24015	Cecil .....	MD
1 .....	36103	Suffolk .....	NY	6 .....	34001	Atlantic .....	NJ
1 .....	36105	Sullivan .....	NY	6 .....	34005	Burlington .....	NJ
1 .....	36111	Ulster .....	NY	6 .....	34007	Camden .....	NJ
1 .....	36119	Westchester .....	NY	6 .....	34009	Cape May .....	NJ
1 .....	42025	Carbon .....	PA	6 .....	34011	Cumberland .....	NJ
1 .....	42069	Lackawanna .....	PA	6 .....	34015	Gloucester .....	NJ
1 .....	42077	Lehigh .....	PA	6 .....	34033	Salem .....	NJ
1 .....	42079	Luzerne .....	PA	6 .....	42011	Berks .....	PA
1 .....	42089	Monroe .....	PA	6 .....	42017	Bucks .....	PA
1 .....	42095	Northampton .....	PA	6 .....	42029	Chester .....	PA
2 .....	06029	Kern .....	CA	6 .....	42045	Delaware .....	PA
2 .....	06037	Los Angeles .....	CA	6 .....	42071	Lancaster .....	PA
2 .....	06059	Orange .....	CA	6 .....	42091	Montgomery .....	PA
2 .....	06065	Riverside .....	CA	6 .....	42101	Philadelphia .....	PA
2 .....	06071	San Bernardino .....	CA	7 .....	25001	Barnstable .....	MA
2 .....	06079	San Luis Obispo .....	CA	7 .....	25005	Bristol .....	MA
2 .....	06083	Santa Barbara .....	CA	7 .....	25007	Dukes .....	MA
2 .....	06111	Ventura .....	CA	7 .....	25009	Essex .....	MA
3 .....	17031	Cook .....	IL	7 .....	25017	Middlesex .....	MA
3 .....	17043	DuPage .....	IL	7 .....	25019	Nantucket .....	MA
3 .....	17063	Grundy .....	IL	7 .....	25021	Norfolk .....	MA
3 .....	17089	Kane .....	IL	7 .....	25023	Plymouth .....	MA
3 .....	17091	Kankakee .....	IL	7 .....	25025	Suffolk .....	MA
3 .....	17093	Kendall .....	IL	7 .....	25027	Worcester .....	MA
3 .....	17097	Lake .....	IL	7 .....	44001	Bristol .....	RI
3 .....	17111	McHenry .....	IL	7 .....	44003	Kent .....	RI
3 .....	17197	Will .....	IL	7 .....	44005	Newport .....	RI
3 .....	18091	La Porte .....	IN	7 .....	44007	Providence .....	RI
3 .....	18089	Lake .....	IN	7 .....	44009	Washington .....	RI
3 .....	18127	Porter .....	IN	8 .....	48085	Collin .....	TX
4 .....	06001	Alameda .....	CA	8 .....	48113	Dallas .....	TX
4 .....	06013	Contra Costa .....	CA	8 .....	48121	Denton .....	TX
4 .....	06041	Marin .....	CA	8 .....	48139	Ellis .....	TX
4 .....	06053	Monterey .....	CA	8 .....	48181	Grayson .....	TX
4 .....	06055	Napa .....	CA	8 .....	48221	Hood .....	TX
4 .....	06075	San Francisco .....	CA	8 .....	48251	Johnson .....	TX
4 .....	06077	San Joaquin .....	CA	8 .....	48257	Kaufman .....	TX
4 .....	06081	San Mateo .....	CA	8 .....	48367	Parker .....	TX
4 .....	06085	Santa Clara .....	CA	8 .....	48397	Rockwall .....	TX
4 .....	06087	Santa Cruz .....	CA	8 .....	48439	Tarrant .....	TX
4 .....	06095	Solano .....	CA	8 .....	48497	Wise .....	TX

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PEA No.	Federal Information Processing System No.	County name	State	PEA No.	Federal Information Processing System No.	County name	State
9 .....	12011	Broward .....	FL	13 .....	12105	Polk .....	FL
9 .....	12043	Glades .....	FL	13 .....	12117	Seminole .....	FL
9 .....	12051	Hendry .....	FL	13 .....	12119	Sumter .....	FL
9 .....	12061	Indian River .....	FL	13 .....	12127	Volusia .....	FL
9 .....	12085	Martin .....	FL	14 .....	39007	Ashland .....	OH
9 .....	12086	Miami-Dade .....	FL	14 .....	39019	Carroll .....	OH
9 .....	12087	Monroe .....	FL	14 .....	39029	Columbiana .....	OH
9 .....	12093	Okeechobee .....	FL	14 .....	39035	Cuyahoga .....	OH
9 .....	12099	Palm Beach .....	FL	14 .....	39043	Erie .....	OH
9 .....	12111	St. Lucie .....	FL	14 .....	39055	Geauga .....	OH
10 .....	48039	Brazoria .....	TX	14 .....	39077	Huron .....	OH
10 .....	48071	Chambers .....	TX	14 .....	39085	Lake .....	OH
10 .....	48157	Fort Bend .....	TX	14 .....	39093	Lorain .....	OH
10 .....	48167	Galveston .....	TX	14 .....	39099	Mahoning .....	OH
10 .....	48201	Harris .....	TX	14 .....	39103	Medina .....	OH
10 .....	48291	Liberty .....	TX	14 .....	39133	Portage .....	OH
10 .....	48339	Montgomery .....	TX	14 .....	39151	Stark .....	OH
10 .....	48473	Waller .....	TX	14 .....	39153	Summit .....	OH
11 .....	13011	Banks .....	GA	14 .....	39155	Trumbull .....	OH
11 .....	13013	Barrow .....	GA	14 .....	42085	Mercer .....	PA
11 .....	13035	Butte .....	GA	15 .....	04013	Maricopa .....	AZ
11 .....	13057	Cherokee .....	GA	16 .....	53009	Clallam .....	WA
11 .....	13059	Clarke .....	GA	16 .....	53031	Jefferson .....	WA
11 .....	13063	Clayton .....	GA	16 .....	53033	King .....	WA
11 .....	13067	Cobb .....	GA	16 .....	53035	Kitsap .....	WA
11 .....	13085	Dawson .....	GA	16 .....	53053	Pierce .....	WA
11 .....	13089	DeKalb .....	GA	16 .....	53061	Snohomish .....	WA
11 .....	13097	Douglas .....	GA	17 .....	27003	Anoka .....	MN
11 .....	13105	Elbert .....	GA	17 .....	27009	Benton .....	MN
11 .....	13113	Fayette .....	GA	17 .....	27019	Carver .....	MN
11 .....	13117	Forsyth .....	GA	17 .....	27025	Chisago .....	MN
11 .....	13119	Franklin .....	GA	17 .....	27037	Dakota .....	MN
11 .....	13121	Fulton .....	GA	17 .....	27053	Hennepin .....	MN
11 .....	13133	Greene .....	GA	17 .....	27123	Ramsey .....	MN
11 .....	13135	Gwinnett .....	GA	17 .....	27139	Scott .....	MN
11 .....	13137	Habersham .....	GA	17 .....	27141	Sherburne .....	MN
11 .....	13139	Hall .....	GA	17 .....	27145	Stearns .....	MN
11 .....	13147	Hart .....	GA	17 .....	27163	Washington .....	MN
11 .....	13151	Henry .....	GA	17 .....	27171	Wright .....	MN
11 .....	13157	Jackson .....	GA	17 .....	55109	St. Croix .....	WI
11 .....	13159	Jasper .....	GA	18 .....	06073	San Diego .....	CA
11 .....	13187	Lumpkin .....	GA	19 .....	41003	Benton .....	OR
11 .....	13195	Madison .....	GA	19 .....	41005	Clackamas .....	OR
11 .....	13211	Morgan .....	GA	19 .....	41007	Clatsop .....	OR
11 .....	13217	Newton .....	GA	19 .....	41009	Columbia .....	OR
11 .....	13219	Oconee .....	GA	19 .....	41041	Lincoln .....	OR
11 .....	13221	Oglethorpe .....	GA	19 .....	41043	Linn .....	OR
11 .....	13223	Paulding .....	GA	19 .....	41047	Marion .....	OR
11 .....	13241	Rabun .....	GA	19 .....	41051	Multnomah .....	OR
11 .....	13247	Rockdale .....	GA	19 .....	41053	Polk .....	OR
11 .....	13257	Stephens .....	GA	19 .....	41057	Tillamook .....	OR
11 .....	13265	Taliaferro .....	GA	19 .....	41067	Washington .....	OR
11 .....	13297	Walton .....	GA	19 .....	41071	Yamhill .....	OR
11 .....	13311	White .....	GA	19 .....	53011	Clark .....	WA
12 .....	26049	Genesee .....	MI	19 .....	53015	Cowlitz .....	WA
12 .....	26087	Lapeer .....	MI	19 .....	53069	Wahkiakum .....	WA
12 .....	26093	Livingston .....	MI	20 .....	08001	Adams .....	CO
12 .....	26099	Macomb .....	MI	20 .....	08005	Arapahoe .....	CO
12 .....	26125	Oakland .....	MI	20 .....	08013	Boulder .....	CO
12 .....	26155	Shiawassee .....	MI	20 .....	08014	Broomfield .....	CO
12 .....	26147	St. Clair .....	MI	20 .....	08031	Denver .....	CO
12 .....	26161	Washtenaw .....	MI	20 .....	08035	Douglas .....	CO
12 .....	26163	Wayne .....	MI	20 .....	08047	Gilpin .....	CO
13 .....	12009	Brevard .....	FL	20 .....	08059	Jefferson .....	CO
13 .....	12017	Citrus .....	FL	21 .....	12053	Hernando .....	FL
13 .....	12035	Flagler .....	FL	21 .....	12057	Hillsborough .....	FL
13 .....	12049	Hardee .....	FL	21 .....	12101	Pasco .....	FL
13 .....	12055	Highlands .....	FL	21 .....	12103	Pinellas .....	FL
13 .....	12069	Lake .....	FL	22 .....	06005	Amador .....	CA
13 .....	12083	Marion .....	FL	22 .....	06007	Butte .....	CA
13 .....	12095	Orange .....	FL	22 .....	06011	Colusa .....	CA
13 .....	12097	Osceola .....	FL	22 .....	06017	El Dorado .....	CA

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PEA No.	Federal Information Processing System No.	County name	State	PEA No.	Federal Information Processing System No.	County name	State
22 ....	06021	Glenn .....	CA	30 ....	29047	Clay .....	MO
22 ....	06057	Nevada .....	CA	30 ....	29095	Jackson .....	MO
22 ....	06061	Placer .....	CA	30 ....	29165	Platte .....	MO
22 ....	06067	Sacramento .....	CA	30 ....	29177	Ray .....	MO
22 ....	06101	Sutter .....	CA	31 ....	18011	Boone .....	IN
22 ....	06113	Yolo .....	CA	31 ....	18035	Delaware .....	IN
22 ....	06115	Yuba .....	CA	31 ....	18057	Hamilton .....	IN
23 ....	42003	Allegheny .....	PA	31 ....	18063	Hendricks .....	IN
23 ....	42005	Armstrong .....	PA	31 ....	18081	Johnson .....	IN
23 ....	42007	Beaver .....	PA	31 ....	18095	Madison .....	IN
23 ....	42019	Butler .....	PA	31 ....	18097	Marion .....	IN
23 ....	42063	Indiana .....	PA	32 ....	21047	Christian .....	KY
23 ....	42073	Lawrence .....	PA	32 ....	47021	Cheatham .....	TN
23 ....	42125	Washington .....	PA	32 ....	47037	Davidson .....	TN
23 ....	42129	Westmoreland .....	PA	32 ....	47043	Dickson .....	TN
24 ....	17005	Bond .....	IL	32 ....	47125	Montgomery .....	TN
24 ....	17027	Clinton .....	IL	32 ....	47147	Robertson .....	TN
24 ....	17121	Marion .....	IL	32 ....	47149	Rutherford .....	TN
24 ....	17133	Monroe .....	IL	32 ....	47165	Sumner .....	TN
24 ....	17163	St. Clair .....	IL	32 ....	47187	Williamson .....	TN
24 ....	29071	Franklin .....	MO	32 ....	47189	Wilson .....	TN
24 ....	29099	Jefferson .....	MO	33 ....	37053	Currituck .....	NC
24 ....	29183	St. Charles .....	MO	33 ....	51550	Chesapeake City .....	VA
24 ....	29189	St. Louis .....	MO	33 ....	51620	Franklin City .....	VA
24 ....	29510	St. Louis City .....	MO	33 ....	51073	Gloucester .....	VA
25 ....	21015	Boone .....	KY	33 ....	51650	Hampton City .....	VA
25 ....	21023	Bracken .....	KY	33 ....	51093	Isle of Wight .....	VA
25 ....	21037	Campbell .....	KY	33 ....	51095	James City .....	VA
25 ....	21077	Gallatin .....	KY	33 ....	51115	Mathews .....	VA
25 ....	21081	Grant .....	KY	33 ....	51700	Newport News City .....	VA
25 ....	21117	Kenton .....	KY	33 ....	51710	Norfolk City .....	VA
25 ....	21135	Lewis .....	KY	33 ....	51735	Poquoson City .....	VA
25 ....	21161	Mason .....	KY	33 ....	51740	Portsmouth City .....	VA
25 ....	21191	Pendleton .....	KY	33 ....	51175	Southampton .....	VA
25 ....	39001	Adams .....	OH	33 ....	51800	Suffolk City .....	VA
25 ....	39015	Brown .....	OH	33 ....	51181	Surry .....	VA
25 ....	39017	Butler .....	OH	33 ....	51810	Virginia Beach City .....	VA
25 ....	39025	Clermont .....	OH	33 ....	51830	Williamsburg City .....	VA
25 ....	39027	Clinton .....	OH	33 ....	51199	York .....	VA
25 ....	39061	Hamilton .....	OH	34 ....	06019	Fresno .....	CA
25 ....	39071	Highland .....	OH	34 ....	06031	Kings .....	CA
25 ....	39165	Warren .....	OH	34 ....	06039	Madera .....	CA
26 ....	04015	Mohave .....	AZ	34 ....	06107	Tulare .....	CA
26 ....	32003	Clark .....	NV	35 ....	48209	Hays .....	TX
27 ....	49011	Davis .....	UT	35 ....	48331	Milam .....	TX
27 ....	49035	Salt Lake .....	UT	35 ....	48453	Travis .....	TX
27 ....	49045	Tooele .....	UT	35 ....	48491	Williamson .....	TX
27 ....	49049	Utah .....	UT	36 ....	22051	Jefferson Parish .....	LA
27 ....	49057	Weber .....	UT	36 ....	22057	Lafourche Parish .....	LA
28 ....	48013	Atascosa .....	TX	36 ....	22071	Orleans Parish .....	LA
28 ....	48029	Bexar .....	TX	36 ....	22075	Plaquemines Parish .....	LA
28 ....	48091	Comal .....	TX	36 ....	22087	St. Bernard Parish .....	LA
28 ....	48187	Guadalupe .....	TX	36 ....	22089	St. Charles Parish .....	LA
29 ....	12001	Alachua .....	FL	36 ....	22093	St. James Parish .....	LA
29 ....	12003	Baker .....	FL	36 ....	22095	St. John the Baptist Parish .....	LA
29 ....	12007	Bradford .....	FL	36 ....	22103	St. Tammany Parish .....	LA
29 ....	12019	Clay .....	FL	36 ....	22105	Tangipahoa Parish .....	LA
29 ....	12023	Columbia .....	FL	36 ....	22109	Terrebonne Parish .....	LA
29 ....	12029	Dixie .....	FL	36 ....	22117	Washington Parish .....	LA
29 ....	12031	Duval .....	FL	36 ....	28109	Pearl River .....	MS
29 ....	12041	Gilchrist .....	FL	37 ....	39041	Delaware .....	OH
29 ....	12047	Hamilton .....	FL	37 ....	39045	Fairfield .....	OH
29 ....	12067	Lafayette .....	FL	37 ....	39049	Franklin .....	OH
29 ....	12075	Levy .....	FL	37 ....	39097	Madison .....	OH
29 ....	12089	Nassau .....	FL	37 ....	39129	Pickaway .....	OH
29 ....	12107	Putnam .....	FL	38 ....	55079	Milwaukee .....	WI
29 ....	12109	St. Johns .....	FL	38 ....	55089	Ozaukee .....	WI
29 ....	12121	Swanee .....	FL	38 ....	55131	Washington .....	WI
29 ....	12125	Union .....	FL	38 ....	55133	Waukesha .....	WI
30 ....	20091	Johnson .....	KS	39 ....	40017	Canadian .....	OK
30 ....	20209	Wyandotte .....	KS	39 ....	40027	Cleveland .....	OK
30 ....	29037	Cass .....	MO	39 ....	40031	Comanche .....	OK

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PEA No.	Federal Information Processing System No.	County name	State	PEA No.	Federal Information Processing System No.	County name	State
39 ....	40051	Grady .....	OK	46 ....	05149	Yell .....	AR
39 ....	40081	Lincoln .....	OK	47 ....	48061	Cameron .....	TX
39 ....	40083	Logan .....	OK	47 ....	48215	Hidalgo .....	TX
39 ....	40087	McClain .....	OK	47 ....	48427	Starr .....	TX
39 ....	40109	Oklahoma .....	OK	47 ....	48489	Willacy .....	TX
39 ....	40125	Pottawatomie .....	OK	48 ....	42001	Adams .....	PA
40 ....	01015	Calhoun .....	AL	48 ....	42041	Cumberland .....	PA
40 ....	01073	Jefferson .....	AL	48 ....	42043	Dauphin .....	PA
40 ....	01117	Shelby .....	AL	48 ....	42067	Juniata .....	PA
40 ....	01115	St. Clair .....	AL	48 ....	42075	Lebanon .....	PA
40 ....	01121	Talladega .....	AL	48 ....	42099	Perry .....	PA
40 ....	01125	Tuscaloosa .....	AL	48 ....	42133	York .....	PA
40 ....	01127	Walker .....	AL	49 ....	36001	Albany .....	NY
41 ....	36011	Cayuga .....	NY	49 ....	36021	Columbia .....	NY
41 ....	36017	Chenango .....	NY	49 ....	36035	Fulton .....	NY
41 ....	36023	Cortland .....	NY	49 ....	36039	Greene .....	NY
41 ....	36025	Delaware .....	NY	49 ....	36041	Hamilton .....	NY
41 ....	36043	Herkimer .....	NY	49 ....	36057	Montgomery .....	NY
41 ....	36053	Madison .....	NY	49 ....	36083	Rensselaer .....	NY
41 ....	36065	Oneida .....	NY	49 ....	36091	Saratoga .....	NY
41 ....	36067	Onondaga .....	NY	49 ....	36093	Schenectady .....	NY
41 ....	36075	Oswego .....	NY	49 ....	36095	Schoharie .....	NY
41 ....	36077	Otsego .....	NY	49 ....	36113	Warren .....	NY
41 ....	36097	Schuyler .....	NY	49 ....	36115	Washington .....	NY
41 ....	36109	Tompkins .....	NY	50 ....	37149	Polk .....	NC
42 ....	15001	Hawaii .....	HI	50 ....	45007	Anderson .....	SC
42 ....	15003	Honolulu .....	HI	50 ....	45021	Cherokee .....	SC
42 ....	15005	Kalawao .....	HI	50 ....	45045	Greenville .....	SC
42 ....	15007	Kauai .....	HI	50 ....	45073	Ocnee .....	SC
42 ....	15009	Maui .....	HI	50 ....	45077	Pickens .....	SC
43 ....	37071	Gaston .....	NC	50 ....	45083	Spartanburg .....	SC
43 ....	37119	Mecklenburg .....	NC	50 ....	45087	Union .....	SC
43 ....	37179	Union .....	NC	51 ....	18019	Clark .....	IN
44 ....	36037	Genesee .....	NY	51 ....	18043	Floyd .....	IN
44 ....	36051	Livingston .....	NY	51 ....	18077	Jefferson .....	IN
44 ....	36055	Monroe .....	NY	51 ....	18143	Scott .....	IN
44 ....	36069	Ontario .....	NY	51 ....	21029	Bullitt .....	KY
44 ....	36073	Orleans .....	NY	51 ....	21041	Carroll .....	KY
44 ....	36099	Seneca .....	NY	51 ....	21103	Henry .....	KY
44 ....	36101	Steuben .....	NY	51 ....	21111	Jefferson .....	KY
44 ....	36117	Wayne .....	NY	51 ....	21185	Oldham .....	KY
44 ....	36121	Wyoming .....	NY	51 ....	21211	Shelby .....	KY
44 ....	36123	Yates .....	NY	51 ....	21223	Trimble .....	KY
45 ....	37063	Durham .....	NC	52 ....	21019	Boyd .....	KY
45 ....	37135	Orange .....	NC	52 ....	21043	Carter .....	KY
45 ....	37183	Wake .....	NC	52 ....	21063	Elliott .....	KY
46 ....	05005	Baxter .....	AR	52 ....	21089	Greenup .....	KY
46 ....	05009	Boone .....	AR	52 ....	39053	Gallia .....	OH
46 ....	05015	Carroll .....	AR	52 ....	39087	Lawrence .....	OH
46 ....	05023	Cleburne .....	AR	52 ....	39105	Meigs .....	OH
46 ....	05029	Conway .....	AR	52 ....	39167	Washington .....	OH
46 ....	05045	Faulkner .....	AR	52 ....	54005	Boone .....	WV
46 ....	05049	Fulton .....	AR	52 ....	54007	Braxton .....	WV
46 ....	05063	Independence .....	AR	52 ....	54011	Cabell .....	WV
46 ....	05065	Izard .....	AR	52 ....	54013	Calhoun .....	WV
46 ....	05067	Jackson .....	AR	52 ....	54015	Clay .....	WV
46 ....	05069	Jefferson .....	AR	52 ....	54019	Fayette .....	WV
46 ....	05071	Johnson .....	AR	52 ....	54021	Gilmer .....	WV
46 ....	05085	Loneoke .....	AR	52 ....	54035	Jackson .....	WV
46 ....	05089	Marion .....	AR	52 ....	54039	Kanawha .....	WV
46 ....	05101	Newton .....	AR	52 ....	54043	Lincoln .....	WV
46 ....	05105	Perry .....	AR	52 ....	54045	Logan .....	WV
46 ....	05115	Pope .....	AR	52 ....	54053	Mason .....	WV
46 ....	05117	Prairie .....	AR	52 ....	54067	Nicholas .....	WV
46 ....	05119	Pulaski .....	AR	52 ....	54073	Pleasants .....	WV
46 ....	05125	Saline .....	AR	52 ....	54079	Putnam .....	WV
46 ....	05129	Searcy .....	AR	52 ....	54081	Raleigh .....	WV
46 ....	05135	Sharp .....	AR	52 ....	54085	Ritchie .....	WV
46 ....	05137	Stone .....	AR	52 ....	54087	Roane .....	WV
46 ....	05141	Van Buren .....	AR	52 ....	54089	Summers .....	WV
46 ....	05145	White .....	AR	52 ....	54099	Wayne .....	WV
46 ....	05147	Woodruff .....	AR	52 ....	54101	Webster .....	WV

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PEA No.	Federal Information Processing System No.	County name	State	PEA No.	Federal Information Processing System No.	County name	State
52	54105	Wirt .....	WV	59	05035	Crittenden .....	AR
52	54107	Wood .....	WV	59	47157	Shelby .....	TN
52	54109	Wyoming .....	WV	59	47167	Tipton .....	TN
53	04003	Cochise .....	AZ	60	33001	Belknap .....	NH
53	04019	Pima .....	AZ	60	33011	Hillsborough .....	NH
53	04023	Santa Cruz .....	AZ	60	33013	Merrimack .....	NH
54	36029	Erie .....	NY	60	33015	Rockingham .....	NH
54	36063	Niagara .....	NY	60	33017	Strafford .....	NH
55	01033	Colbert .....	AL	61	39039	Defiance .....	OH
55	01049	DeKalb .....	AL	61	39051	Fulton .....	OH
55	01055	Etowah .....	AL	61	39063	Hancock .....	OH
55	01059	Franklin .....	AL	61	39065	Hardin .....	OH
55	01071	Jackson .....	AL	61	39069	Henry .....	OH
55	01077	Lauderdale .....	AL	61	39095	Lucas .....	OH
55	01079	Lawrence .....	AL	61	39123	Ottawa .....	OH
55	01083	Limestone .....	AL	61	39125	Paulding .....	OH
55	01089	Madison .....	AL	61	39143	Sandusky .....	OH
55	01095	Marshall .....	AL	61	39147	Seneca .....	OH
55	01103	Morgan .....	AL	61	39171	Williams .....	OH
55	47103	Lincoln .....	TN	61	39173	Wood .....	OH
56	26005	Allegan .....	MI	61	39175	Wyandot .....	OH
56	26015	Barry .....	MI	62	39021	Champaign .....	OH
56	26023	Branch .....	MI	62	39023	Clark .....	OH
56	26025	Calhoun .....	MI	62	39057	Greene .....	OH
56	26067	Ionia .....	MI	62	39109	Miami .....	OH
56	26077	Kalamazoo .....	MI	62	39113	Montgomery .....	OH
56	26107	Mecosta .....	MI	62	39135	Preble .....	OH
56	26117	Montcalm .....	MI	63	40021	Cherokee .....	OK
56	26121	Muskegon .....	MI	63	40037	Creek .....	OK
56	26123	Newaygo .....	MI	63	40097	Mayes .....	OK
56	26127	Oceana .....	MI	63	40113	Osage .....	OK
56	26159	Van Buren .....	MI	63	40131	Rogers .....	OK
57	51036	Charles City .....	VA	63	40143	Tulsa .....	OK
57	51041	Chesterfield .....	VA	63	40145	Wagoner .....	OK
57	51057	Essex .....	VA	64	18039	Elkhart .....	IN
57	51075	Goochland .....	VA	64	18049	Fulton .....	IN
57	51085	Hanover .....	VA	64	18085	Kosciusko .....	IN
57	51087	Henrico .....	VA	64	18087	Lagrange .....	IN
57	51097	King and Queen .....	VA	64	18099	Marshall .....	IN
57	51101	King William .....	VA	64	18131	Pulaski .....	IN
57	51103	Lancaster .....	VA	64	18141	St. Joseph .....	IN
57	51119	Middlesex .....	VA	64	18149	Starke .....	IN
57	51127	New Kent .....	VA	64	26021	Berrien .....	MI
57	51133	Northumberland .....	VA	64	26027	Cass .....	MI
57	51145	Powhatan .....	VA	64	26149	St. Joseph .....	MI
57	51159	Richmond .....	VA	65	12021	Collier .....	FL
57	51760	Richmond City .....	VA	65	12071	Lee .....	FL
58	17023	Clark .....	IL	66	26037	Clinton .....	MI
58	18007	Benton .....	IN	66	26045	Eaton .....	MI
58	18015	Carroll .....	IN	66	26059	Hillsdale .....	MI
58	18017	Cass .....	IN	66	26065	Ingham .....	MI
58	18021	Clay .....	IN	66	26075	Jackson .....	MI
58	18023	Clinton .....	IN	66	26091	Lenawee .....	MI
58	18045	Fountain .....	IN	66	26115	Monroe .....	MI
58	18055	Greene .....	IN	67	12015	Charlotte .....	FL
58	18067	Howard .....	IN	67	12027	DeSoto .....	FL
58	18093	Lawrence .....	IN	67	12081	Manatee .....	FL
58	18103	Miami .....	IN	67	12115	Sarasota .....	FL
58	18105	Monroe .....	IN	68	26081	Kent .....	MI
58	18107	Montgomery .....	IN	68	26139	Ottawa .....	MI
58	18109	Morgan .....	IN	69	25003	Berkshire .....	MA
58	18117	Orange .....	IN	69	25011	Franklin .....	MA
58	18119	Owen .....	IN	69	25013	Hampden .....	MA
58	18121	Parke .....	IN	69	25015	Hampshire .....	MA
58	18133	Putnam .....	IN	69	50003	Bennington .....	VT
58	18153	Sullivan .....	IN	70	06015	Del Norte .....	CA
58	18157	Tippecanoe .....	IN	70	41011	Coos .....	OR
58	18159	Tipton .....	IN	70	41015	Curry .....	OR
58	18165	Vermillion .....	IN	70	41019	Douglas .....	OR
58	18167	Vigo .....	IN	70	41029	Jackson .....	OR
58	18171	Warren .....	IN	70	41033	Josephine .....	OR
58	18181	White .....	IN	70	41039	Lane .....	OR

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71 ....	47001	Anderson .....	TN	79 ....	28001	Adams .....	MS
71 ....	47009	Blount .....	TN	79 ....	28005	Amite .....	MS
71 ....	47013	Campbell .....	TN	79 ....	28021	Claiborne .....	MS
71 ....	47093	Knox .....	TN	79 ....	28023	Clarke .....	MS
71 ....	47105	Loudon .....	TN	79 ....	28029	Copiah .....	MS
71 ....	47129	Morgan .....	TN	79 ....	28031	Covington .....	MS
71 ....	47145	Roane .....	TN	79 ....	28035	Forrest .....	MS
71 ....	47151	Scott .....	TN	79 ....	28037	Franklin .....	MS
71 ....	47173	Union .....	TN	79 ....	28041	Greene .....	MS
72 ....	12005	Bay .....	FL	79 ....	28061	Jasper .....	MS
72 ....	12013	Calhoun .....	FL	79 ....	28063	Jefferson .....	MS
72 ....	12037	Franklin .....	FL	79 ....	28065	Jefferson Davis .....	MS
72 ....	12039	Gadsden .....	FL	79 ....	28067	Jones .....	MS
72 ....	12045	Gulf .....	FL	79 ....	28069	Kemper .....	MS
72 ....	12063	Jackson .....	FL	79 ....	28073	Lamar .....	MS
72 ....	12065	Jefferson .....	FL	79 ....	28075	Lauderdale .....	MS
72 ....	12073	Leon .....	FL	79 ....	28077	Lawrence .....	MS
72 ....	12077	Liberty .....	FL	79 ....	28079	Leake .....	MS
72 ....	12079	Madison .....	FL	79 ....	28085	Lincoln .....	MS
72 ....	12123	Taylor .....	FL	79 ....	28091	Marion .....	MS
72 ....	12129	Wakulla .....	FL	79 ....	28099	Neshoba .....	MS
72 ....	13087	Decatur .....	GA	79 ....	28101	Newton .....	MS
72 ....	13099	Early .....	GA	79 ....	28111	Perry .....	MS
72 ....	13131	Grady .....	GA	79 ....	28113	Pike .....	MS
72 ....	13201	Miller .....	GA	79 ....	28123	Scott .....	MS
72 ....	13253	Seminole .....	GA	79 ....	28127	Simpson .....	MS
72 ....	13275	Thomas .....	GA	79 ....	28129	Smith .....	MS
73 ....	48141	El Paso .....	TX	79 ....	28147	Walthall .....	MS
74 ....	13047	Catoosa .....	GA	79 ....	28153	Wayne .....	MS
74 ....	13083	Dade .....	GA	80 ....	19155	Pottawattamie .....	IA
74 ....	13295	Walker .....	GA	80 ....	31055	Douglas .....	NE
74 ....	47007	Bledsoe .....	TN	80 ....	31153	Sarpy .....	NE
74 ....	47011	Bradley .....	TN	81 ....	26001	Alcona .....	MI
74 ....	47065	Hamilton .....	TN	81 ....	26011	Arenac .....	MI
74 ....	47115	Marion .....	TN	81 ....	26017	Bay .....	MI
74 ....	47107	McMinn .....	TN	81 ....	26035	Clare .....	MI
74 ....	47121	Meigs .....	TN	81 ....	26051	Gladwin .....	MI
74 ....	47123	Monroe .....	TN	81 ....	26057	Gratiot .....	MI
74 ....	47139	Polk .....	TN	81 ....	26063	Huron .....	MI
74 ....	47143	Rhea .....	TN	81 ....	26069	Iosco .....	MI
74 ....	47153	Sequatchie .....	TN	81 ....	26073	Isabella .....	MI
75 ....	35001	Bernalillo .....	NM	81 ....	26111	Midland .....	MI
75 ....	35043	Sandoval .....	NM	81 ....	26129	Ogemaw .....	MI
76 ....	06003	Alpine .....	CA	81 ....	26145	Saginaw .....	MI
76 ....	06027	Inyo .....	CA	81 ....	26151	Sanilac .....	MI
76 ....	06035	Lassen .....	CA	81 ....	26157	Tuscola .....	MI
76 ....	06051	Mono .....	CA	82 ....	22005	Ascension Parish .....	LA
76 ....	06063	Plumas .....	CA	82 ....	22007	Assumption Parish .....	LA
76 ....	06091	Sierra .....	CA	82 ....	22033	East Baton Rouge Parish .....	LA
76 ....	32510	Carson City .....	NV	82 ....	22047	Iberia Parish .....	LA
76 ....	32001	Churchill .....	NV	82 ....	22063	Livingston Parish .....	LA
76 ....	32005	Douglas .....	NV	82 ....	22121	West Baton Rouge Parish .....	LA
76 ....	32007	Elko .....	NV	83 ....	18001	Adams .....	IN
76 ....	32011	Eureka .....	NV	83 ....	18003	Allen .....	IN
76 ....	32013	Humboldt .....	NV	83 ....	18009	Blackford .....	IN
76 ....	32015	Lander .....	NV	83 ....	18033	De Kalb .....	IN
76 ....	32019	Lyon .....	NV	83 ....	18053	Grant .....	IN
76 ....	32027	Pershing .....	NV	83 ....	18069	Huntington .....	IN
76 ....	32029	Storey .....	NV	83 ....	18075	Jay .....	IN
76 ....	32031	Washoe .....	NV	83 ....	18113	Noble .....	IN
76 ....	32033	White Pine .....	NV	83 ....	18151	Steuben .....	IN
77 ....	23001	Androscoggin .....	ME	83 ....	18169	Wabash .....	IN
77 ....	23005	Cumberland .....	ME	83 ....	18179	Wells .....	IN
77 ....	23007	Franklin .....	ME	83 ....	18183	Whitley .....	IN
77 ....	23013	Knox .....	ME	84 ....	01003	Baldwin .....	AL
77 ....	23015	Lincoln .....	ME	84 ....	01025	Clarke .....	AL
77 ....	23017	Oxford .....	ME	84 ....	01035	Conecuh .....	AL
77 ....	23023	Sagadahoc .....	ME	84 ....	01053	Escambia .....	AL
77 ....	23031	York .....	ME	84 ....	01097	Mobile .....	AL
78 ....	37001	Alamance .....	NC	84 ....	01099	Monroe .....	AL
78 ....	37081	Guilford .....	NC	84 ....	01129	Washington .....	AL
78 ....	37151	Randolph .....	NC	84 ....	01131	Wilcox .....	AL

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85 ....	45015	Berkeley .....	SC	94 ....	48099	Coryell .....	TX
85 ....	45019	Charleston .....	SC	94 ....	48145	Falls .....	TX
85 ....	45029	Colleton .....	SC	94 ....	48309	McLennan .....	TX
85 ....	45035	Dorchester .....	SC	95 ....	21025	Breathitt .....	KY
86 ....	21005	Anderson .....	KY	95 ....	21065	Estill .....	KY
86 ....	21011	Bath .....	KY	95 ....	21071	Floyd .....	KY
86 ....	21017	Bourbon .....	KY	95 ....	21109	Jackson .....	KY
86 ....	21049	Clark .....	KY	95 ....	21115	Johnson .....	KY
86 ....	21067	Fayette .....	KY	95 ....	21119	Knott .....	KY
86 ....	21069	Fleming .....	KY	95 ....	21127	Lawrence .....	KY
86 ....	21073	Franklin .....	KY	95 ....	21129	Lee .....	KY
86 ....	21097	Harrison .....	KY	95 ....	21133	Letcher .....	KY
86 ....	21113	Jessamine .....	KY	95 ....	21153	Magoffin .....	KY
86 ....	21165	Menifee .....	KY	95 ....	21159	Martin .....	KY
86 ....	21167	Mercer .....	KY	95 ....	21175	Morgan .....	KY
86 ....	21173	Montgomery .....	KY	95 ....	21189	Owsley .....	KY
86 ....	21181	Nicholas .....	KY	95 ....	21193	Perry .....	KY
86 ....	21187	Owen .....	KY	95 ....	21195	Pike .....	KY
86 ....	21201	Robertson .....	KY	95 ....	21197	Powell .....	KY
86 ....	21205	Rowan .....	KY	95 ....	21237	Wolfe .....	KY
86 ....	21209	Scott .....	KY	95 ....	51021	Bland .....	VA
86 ....	21239	Woodford .....	KY	95 ....	51027	Buchanan .....	VA
87 ....	12033	Escambia .....	FL	95 ....	51051	Dickenson .....	VA
87 ....	12091	Okaloosa .....	FL	95 ....	51105	Lee .....	VA
87 ....	12113	Santa Rosa .....	FL	95 ....	51720	Norton City .....	VA
87 ....	12131	Walton .....	FL	95 ....	51167	Russell .....	VA
88 ....	24001	Allegany .....	MD	95 ....	51185	Tazewell .....	VA
88 ....	24021	Frederick .....	MD	95 ....	51195	Wise .....	VA
88 ....	24023	Garrett .....	MD	95 ....	54047	McDowell .....	WV
88 ....	24043	Washington .....	MD	95 ....	54055	Mercer .....	WV
88 ....	42055	Franklin .....	PA	95 ....	54059	Mingo .....	WV
88 ....	42057	Fulton .....	PA	96 ....	21001	Adair .....	KY
88 ....	54057	Mineral .....	WV	96 ....	21013	Bell .....	KY
89 ....	45063	Lexington .....	SC	96 ....	21021	Boyle .....	KY
89 ....	45079	Richland .....	SC	96 ....	21045	Casey .....	KY
90 ....	22025	Catahoula Parish .....	LA	96 ....	21051	Clay .....	KY
90 ....	22029	Concordia Parish .....	LA	96 ....	21053	Clinton .....	KY
90 ....	22065	Madison Parish .....	LA	96 ....	21079	Garrard .....	KY
90 ....	22107	Tensas Parish .....	LA	96 ....	21087	Green .....	KY
90 ....	28007	Attala .....	MS	96 ....	21095	Harlan .....	KY
90 ....	28049	Hinds .....	MS	96 ....	21121	Knox .....	KY
90 ....	28051	Holmes .....	MS	96 ....	21125	Laurel .....	KY
90 ....	28089	Madison .....	MS	96 ....	21131	Leslie .....	KY
90 ....	28121	Rankin .....	MS	96 ....	21137	Lincoln .....	KY
90 ....	28149	Warren .....	MS	96 ....	21151	Madison .....	KY
90 ....	28163	Yazoo .....	MS	96 ....	21147	McCreary .....	KY
91 ....	08041	El Paso .....	CO	96 ....	21199	Pulaski .....	KY
91 ....	08119	Teller .....	CO	96 ....	21203	Rockcastle .....	KY
92 ....	17019	Champaign .....	IL	96 ....	21207	Russell .....	KY
92 ....	17025	Clay .....	IL	96 ....	21217	Taylor .....	KY
92 ....	17029	Coles .....	IL	96 ....	21231	Wayne .....	KY
92 ....	17035	Cumberland .....	IL	96 ....	21235	Whitley .....	KY
92 ....	17041	Douglas .....	IL	96 ....	47025	Claiborne .....	TN
92 ....	17045	Edgar .....	IL	97 ....	19143	Osceola .....	IA
92 ....	17049	Effingham .....	IL	97 ....	27013	Blue Earth .....	MN
92 ....	17051	Fayette .....	IL	97 ....	27015	Brown .....	MN
92 ....	17053	Ford .....	IL	97 ....	27023	Chippewa .....	MN
92 ....	17079	Jasper .....	IL	97 ....	27033	Cottonwood .....	MN
92 ....	17115	Macon .....	IL	97 ....	27043	Faribault .....	MN
92 ....	17139	Moultrie .....	IL	97 ....	27047	Freeborn .....	MN
92 ....	17147	Piatt .....	IL	97 ....	27063	Jackson .....	MN
92 ....	17173	Shelby .....	IL	97 ....	27067	Kandiyohi .....	MN
92 ....	17183	Vermilion .....	IL	97 ....	27073	Lac qui Parle .....	MN
93 ....	22001	Acadia Parish .....	LA	97 ....	27079	Le Sueur .....	MN
93 ....	22039	Evangeline Parish .....	LA	97 ....	27081	Lincoln .....	MN
93 ....	22045	Iberia Parish .....	LA	97 ....	27083	Lyon .....	MN
93 ....	22055	Lafayette Parish .....	LA	97 ....	27091	Martin .....	MN
93 ....	22097	St. Landry Parish .....	LA	97 ....	27095	McLeod .....	MN
93 ....	22099	St. Martin Parish .....	LA	97 ....	27093	Meeker .....	MN
93 ....	22101	St. Mary Parish .....	LA	97 ....	27101	Murray .....	MN
93 ....	22113	Vermilion Parish .....	LA	97 ....	27103	Nicollet .....	MN
94 ....	48027	Bell .....	TX	97 ....	27105	Nobles .....	MN

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PEA No.	Federal Information Processing System No.	County name	State	PEA No.	Federal Information Processing System No.	County name	State
97 .....	27127	Redwood .....	MN	102 ..	08097	Pitkin .....	CO
97 .....	27129	Renville .....	MN	102 ..	08103	Rio Blanco .....	CO
97 .....	27131	Rice .....	MN	102 ..	08107	Routt .....	CO
97 .....	27143	Sibley .....	MN	102 ..	08113	San Miguel .....	CO
97 .....	27147	Steele .....	MN	102 ..	08117	Summit .....	CO
97 .....	27161	Waseca .....	MN	103 ..	51043	Clarke .....	VA
97 .....	27165	Watonwan .....	MN	103 ..	51046	Fauquier .....	VA
97 .....	27173	Yellow Medicine .....	MN	103 ..	51069	Frederick .....	VA
98 .....	47019	Carter .....	TN	103 ..	51139	Page .....	VA
98 .....	47059	Greene .....	TN	103 ..	51157	Rappahannock .....	VA
98 .....	47073	Hawkins .....	TN	103 ..	51171	Shenandoah .....	VA
98 .....	47163	Sullivan .....	TN	103 ..	51187	Warren .....	VA
98 .....	47171	Unicoi .....	TN	103 ..	51840	Winchester City .....	VA
98 .....	47179	Washington .....	TN	103 ..	54003	Berkeley .....	WV
98 .....	51520	Bristol City .....	VA	103 ..	54023	Grant .....	WV
98 .....	51169	Scott .....	VA	103 ..	54027	Hampshire .....	WV
98 .....	51173	Smyth .....	VA	103 ..	54031	Hardy .....	WV
98 .....	51191	Washington .....	VA	103 ..	54037	Jefferson .....	WV
99 .....	28003	Alcorn .....	MS	103 ..	54065	Morgan .....	WV
99 .....	28013	Calhoun .....	MS	103 ..	54083	Randolph .....	WV
99 .....	28017	Chickasaw .....	MS	103 ..	54093	Tucker .....	WV
99 .....	28019	Choctaw .....	MS	104 ..	08069	Larimer .....	CO
99 .....	28025	Clay .....	MS	104 ..	08123	Weld .....	CO
99 .....	28043	Grenada .....	MS	105 ..	13073	Columbia .....	GA
99 .....	28057	Itawamba .....	MS	105 ..	13181	Lincoln .....	GA
99 .....	28081	Lee .....	MS	105 ..	13189	McDuffie .....	GA
99 .....	28087	Lowndes .....	MS	105 ..	13245	Richmond .....	GA
99 .....	28095	Monroe .....	MS	105 ..	13317	Wilkes .....	GA
99 .....	28097	Montgomery .....	MS	105 ..	45003	Aiken .....	SC
99 .....	28103	Noxubee .....	MS	105 ..	45037	Edgefield .....	SC
99 .....	28105	Oktibbeha .....	MS	106 ..	39009	Athens .....	OH
99 .....	28115	Pontotoc .....	MS	106 ..	39047	Fayette .....	OH
99 .....	28117	Prentiss .....	MS	106 ..	39059	Guernsey .....	OH
99 .....	28139	Tippah .....	MS	106 ..	39073	Hocking .....	OH
99 .....	28141	Tishomingo .....	MS	106 ..	39079	Jackson .....	OH
99 .....	28145	Union .....	MS	106 ..	39115	Morgan .....	OH
99 .....	28155	Webster .....	MS	106 ..	39119	Muskingum .....	OH
99 .....	28159	Winston .....	MS	106 ..	39121	Noble .....	OH
99 .....	47071	Hardin .....	TN	106 ..	39127	Perry .....	OH
99 .....	47109	McNairy .....	TN	106 ..	39131	Pike .....	OH
100 ..	37013	Beaufort .....	NC	106 ..	39141	Ross .....	OH
100 ..	37031	Carteret .....	NC	106 ..	39145	Scioto .....	OH
100 ..	37049	Craven .....	NC	106 ..	39163	Vinton .....	OH
100 ..	37055	Dare .....	NC	107 ..	23003	Aroostook .....	ME
100 ..	37079	Greene .....	NC	107 ..	23009	Hancock .....	ME
100 ..	37095	Hyde .....	NC	107 ..	23011	Kennebec .....	ME
100 ..	37103	Jones .....	NC	107 ..	23019	Penobscot .....	ME
100 ..	37107	Lenoir .....	NC	107 ..	23021	Piscataquis .....	ME
100 ..	37117	Martin .....	NC	107 ..	23025	Somerset .....	ME
100 ..	37137	Pamlico .....	NC	107 ..	23027	Waldo .....	ME
100 ..	37147	Pitt .....	NC	107 ..	23029	Washington .....	ME
100 ..	37177	Tyrrell .....	NC	108 ..	19049	Dallas .....	IA
100 ..	37187	Washington .....	NC	108 ..	19153	Polk .....	IA
101 ..	20015	Butler .....	KS	108 ..	19181	Warren .....	IA
101 ..	20173	Sedgwick .....	KS	109 ..	37065	Edgecombe .....	NC
102 ..	08015	Chaffee .....	CO	109 ..	37069	Franklin .....	NC
102 ..	08019	Clear Creek .....	CO	109 ..	37077	Granville .....	NC
102 ..	08027	Custer .....	CO	109 ..	37083	Halifax .....	NC
102 ..	08029	Delta .....	CO	109 ..	37127	Nash .....	NC
102 ..	08037	Eagle .....	CO	109 ..	37131	Northampton .....	NC
102 ..	08043	Fremont .....	CO	109 ..	37145	Person .....	NC
102 ..	08045	Garfield .....	CO	109 ..	37181	Vance .....	NC
102 ..	08049	Grand .....	CO	109 ..	37185	Warren .....	NC
102 ..	08051	Gunnison .....	CO	109 ..	37195	Wilson .....	NC
102 ..	08053	Hinsdale .....	CO	110 ..	21075	Fulton .....	KY
102 ..	08057	Jackson .....	CO	110 ..	21105	Hickman .....	KY
102 ..	08065	Lake .....	CO	110 ..	47005	Benton .....	TN
102 ..	08077	Mesa .....	CO	110 ..	47017	Carroll .....	TN
102 ..	08081	Moffat .....	CO	110 ..	47023	Chester .....	TN
102 ..	08085	Montrose .....	CO	110 ..	47033	Crockett .....	TN
102 ..	08091	Ouray .....	CO	110 ..	47039	Decatur .....	TN
102 ..	08093	Park .....	CO	110 ..	47045	Dyer .....	TN

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110 ..	47047	Fayette .....	TN	117 ..	13255	Spalding .....	GA
110 ..	47053	Gibson .....	TN	117 ..	13263	Talbot .....	GA
110 ..	47069	Hardeman .....	TN	117 ..	13285	Troup .....	GA
110 ..	47075	Haywood .....	TN	117 ..	13293	Upson .....	GA
110 ..	47077	Henderson .....	TN	118 ..	18005	Bartholomew .....	IN
110 ..	47079	Henry .....	TN	118 ..	18013	Brown .....	IN
110 ..	47095	Lake .....	TN	118 ..	18031	Decatur .....	IN
110 ..	47097	Lauderdale .....	TN	118 ..	18041	Fayette .....	IN
110 ..	47113	Madison .....	TN	118 ..	18059	Hancock .....	IN
110 ..	47131	Obion .....	TN	118 ..	18065	Henry .....	IN
110 ..	47183	Weakley .....	TN	118 ..	18071	Jackson .....	IN
111 ..	05007	Benton .....	AR	118 ..	18079	Jennings .....	IN
111 ..	05087	Madison .....	AR	118 ..	18135	Randolph .....	IN
111 ..	05143	Washington .....	AR	118 ..	18139	Rush .....	IN
111 ..	29119	McDonald .....	MO	118 ..	18145	Shelby .....	IN
111 ..	40001	Adair .....	OK	118 ..	18161	Union .....	IN
111 ..	40041	Delaware .....	OK	118 ..	18177	Wayne .....	IN
112 ..	21003	Allen .....	KY	119 ..	53005	Benton .....	WA
112 ..	21009	Barren .....	KY	119 ..	53021	Franklin .....	WA
112 ..	21031	Butler .....	KY	119 ..	53077	Yakima .....	WA
112 ..	21057	Cumberland .....	KY	120 ..	50207	Columbia .....	AR
112 ..	21061	Edmonson .....	KY	120 ..	50573	Lafayette .....	AR
112 ..	21099	Hart .....	KY	120 ..	22013	Bienville Parish .....	LA
112 ..	21141	Logan .....	KY	120 ..	22015	Bossier Parish .....	LA
112 ..	21169	Metcalfe .....	KY	120 ..	22017	Caddo Parish .....	LA
112 ..	21171	Monroe .....	KY	120 ..	22027	Claiborne Parish .....	LA
112 ..	21213	Simpson .....	KY	120 ..	22119	Webster Parish .....	LA
112 ..	21219	Todd .....	KY	120 ..	22127	Winn Parish .....	LA
112 ..	21227	Warren .....	KY	121 ..	42009	Bedford .....	PA
112 ..	47027	Clay .....	TN	121 ..	42013	Blair .....	PA
112 ..	47035	Cumberland .....	TN	121 ..	42021	Cambria .....	PA
112 ..	47049	Fentress .....	TN	121 ..	42061	Huntingdon .....	PA
112 ..	47087	Jackson .....	TN	121 ..	42087	Mifflin .....	PA
112 ..	47111	Macon .....	TN	121 ..	42111	Somerset .....	PA
112 ..	47133	Overton .....	TN	122 ..	55025	Dane .....	WI
112 ..	47137	Pickett .....	TN	123 ..	39005	Ashland .....	OH
112 ..	47141	Putnam .....	TN	123 ..	39033	Crawford .....	OH
112 ..	47169	Trousdale .....	TN	123 ..	39067	Harrison .....	OH
113 ..	42031	Clarion .....	PA	123 ..	39075	Holmes .....	OH
113 ..	42039	Crawford .....	PA	123 ..	39139	Richland .....	OH
113 ..	42049	Erie .....	PA	123 ..	39157	Tuscarawas .....	OH
113 ..	42053	Forest .....	PA	123 ..	39169	Wayne .....	OH
113 ..	42121	Venango .....	PA	124 ..	53027	Grays Harbor .....	WA
113 ..	42123	Warren .....	PA	124 ..	53041	Lewis .....	WA
114 ..	42051	Fayette .....	PA	124 ..	53045	Mason .....	WA
114 ..	42059	Greene .....	PA	124 ..	53049	Pacific .....	WA
114 ..	54001	Barbour .....	WV	124 ..	53067	Thurston .....	WA
114 ..	54017	Doddridge .....	WV	125 ..	17013	Calhoun .....	IL
114 ..	54033	Harrison .....	WV	125 ..	17083	Jersey .....	IL
114 ..	54041	Lewis .....	WV	125 ..	17117	Macoupin .....	IL
114 ..	54049	Marion .....	WV	125 ..	17119	Madison .....	IL
114 ..	54061	Monongalia .....	WV	125 ..	29073	Gasconade .....	MO
114 ..	54077	Preston .....	WV	125 ..	29113	Lincoln .....	MO
114 ..	54091	Taylor .....	WV	125 ..	29139	Montgomery .....	MO
114 ..	54097	Upshur .....	WV	125 ..	29163	Pike .....	MO
115 ..	37021	Buncombe .....	NC	125 ..	29219	Warren .....	MO
115 ..	37087	Haywood .....	NC	126 ..	04007	Gila .....	AZ
115 ..	37089	Henderson .....	NC	126 ..	04009	Graham .....	AZ
115 ..	37099	Jackson .....	NC	126 ..	04011	Greenlee .....	AZ
115 ..	37115	Madison .....	NC	126 ..	04021	Pinal .....	AZ
115 ..	37173	Swain .....	NC	127 ..	18027	Daviess .....	IN
115 ..	37175	Transylvania .....	NC	127 ..	18037	Dubois .....	IN
116 ..	17007	Boone .....	IL	127 ..	18051	Gibson .....	IN
116 ..	17201	Winnebago .....	IL	127 ..	18083	Knox .....	IN
116 ..	55105	Rock .....	WI	127 ..	18101	Martin .....	IN
117 ..	13045	Carroll .....	GA	127 ..	18123	Perry .....	IN
117 ..	13077	Coweta .....	GA	127 ..	18125	Pike .....	IN
117 ..	13143	Haralson .....	GA	127 ..	18129	Posey .....	IN
117 ..	13149	Heard .....	GA	127 ..	18147	Spencer .....	IN
117 ..	13171	Lamar .....	GA	127 ..	18163	Vanderburgh .....	IN
117 ..	13199	Meriwether .....	GA	127 ..	18173	Warrick .....	IN
117 ..	13231	Pike .....	GA	128 ..	13009	Baldwin .....	GA

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128 ..	13021	Bibb ..	GA	137 ..	55005	Barron ..	WI
128 ..	13023	Bleckley ..	GA	137 ..	55013	Burnett ..	WI
128 ..	13091	Dodge ..	GA	137 ..	55017	Chippewa ..	WI
128 ..	13153	Houston ..	GA	137 ..	55033	Dunn ..	WI
128 ..	13169	Jones ..	GA	137 ..	55035	Eau Claire ..	WI
128 ..	13225	Peach ..	GA	137 ..	55091	Pepin ..	WI
128 ..	13235	Pulaski ..	GA	137 ..	55093	Pierce ..	WI
128 ..	13289	Twiggs ..	GA	137 ..	55095	Polk ..	WI
128 ..	13315	Wilcox ..	GA	137 ..	55107	Rusk ..	WI
128 ..	13319	Wilkinson ..	GA	137 ..	55113	Sawyer ..	WI
129 ..	17001	Adams ..	IL	137 ..	55129	Washburn ..	WI
129 ..	17009	Brown ..	IL	138 ..	50001	Addison ..	VT
129 ..	17017	Cass ..	IL	138 ..	50005	Caledonia ..	VT
129 ..	17021	Christian ..	IL	138 ..	50007	Chittenden ..	VT
129 ..	17061	Greene ..	IL	138 ..	50011	Franklin ..	VT
129 ..	17107	Logan ..	IL	138 ..	50013	Grand Isle ..	VT
129 ..	17129	Menard ..	IL	138 ..	50015	Lamoille ..	VT
129 ..	17135	Montgomery ..	IL	138 ..	50019	Orleans ..	VT
129 ..	17137	Morgan ..	IL	138 ..	50021	Rutland ..	VT
129 ..	17149	Pike ..	IL	138 ..	50023	Washington ..	VT
129 ..	17167	Sangamon ..	IL	139 ..	50001	Arkansas ..	AR
129 ..	17169	Schuylerville ..	IL	139 ..	50003	Ashley ..	AR
129 ..	17171	Scott ..	IL	139 ..	50111	Bradley ..	AR
130 ..	53063	Spokane ..	WA	139 ..	50103	Calhoun ..	AR
131 ..	37037	Chatham ..	NC	139 ..	50107	Chicot ..	AR
131 ..	37085	Harnett ..	NC	139 ..	50119	Clark ..	AR
131 ..	37101	Johnston ..	NC	139 ..	50205	Cleveland ..	AR
131 ..	37105	Lee ..	NC	139 ..	50309	Dallas ..	AR
131 ..	37163	Sampson ..	NC	139 ..	50401	Desa ..	AR
132 ..	48007	Aransas ..	TX	139 ..	50403	Drew ..	AR
132 ..	48025	Bee ..	TX	139 ..	50501	Garland ..	AR
132 ..	48355	Nueces ..	TX	139 ..	50503	Grant ..	AR
132 ..	48391	Refugio ..	TX	139 ..	50507	Hempstead ..	AR
132 ..	48409	San Patricio ..	TX	139 ..	50509	Hot Spring ..	AR
133 ..	48005	Angelina ..	TX	139 ..	50601	Howard ..	AR
133 ..	48161	Freestone ..	TX	139 ..	50709	Lincoln ..	AR
133 ..	48225	Houston ..	TX	139 ..	50905	Monroe ..	AR
133 ..	48289	Leon ..	TX	139 ..	50907	Montgomery ..	AR
133 ..	48293	Limestone ..	TX	139 ..	50909	Nevada ..	AR
133 ..	48313	Madison ..	TX	139 ..	51003	Ouachita ..	AR
133 ..	48347	Nacogdoches ..	TX	139 ..	51019	Pike ..	AR
133 ..	48373	Polk ..	TX	139 ..	51309	Union ..	AR
133 ..	48395	Robertson ..	TX	140 ..	51033	Caroline ..	VA
133 ..	48403	Sabine ..	TX	140 ..	51047	Culpeper ..	VA
133 ..	48405	San Augustine ..	TX	140 ..	51630	Fredericksburg City ..	VA
133 ..	48407	San Jacinto ..	TX	140 ..	51099	King George ..	VA
133 ..	48419	Shelby ..	TX	140 ..	51113	Madison ..	VA
133 ..	48455	Trinity ..	TX	140 ..	51137	Orange ..	VA
133 ..	48471	Walker ..	TX	140 ..	51177	Spotsylvania ..	VA
134 ..	39031	Coshcoth ..	OH	140 ..	51179	Stafford ..	VA
134 ..	39083	Knox ..	OH	140 ..	51193	Westmoreland ..	VA
134 ..	39089	Licking ..	OH	141 ..	27001	Aitkin ..	MN
134 ..	39091	Logan ..	OH	141 ..	27007	Beltrami ..	MN
134 ..	39101	Marion ..	OH	141 ..	27021	Cass ..	MN
134 ..	39117	Morrow ..	OH	141 ..	27029	Clearwater ..	MN
134 ..	39159	Union ..	OH	141 ..	27035	Crow Wing ..	MN
135 ..	48199	Hardin ..	TX	141 ..	27041	Douglas ..	MN
135 ..	48241	Jasper ..	TX	141 ..	27051	Grant ..	MN
135 ..	48245	Jefferson ..	TX	141 ..	27057	Hubbard ..	MN
135 ..	48351	Newton ..	TX	141 ..	27059	Isanti ..	MN
135 ..	48361	Orange ..	TX	141 ..	27065	Kanabec ..	MN
135 ..	48457	Tyler ..	TX	141 ..	27095	Mille Lacs ..	MN
136 ..	42035	Clinton ..	PA	141 ..	27097	Morrison ..	MN
136 ..	42037	Columbia ..	PA	141 ..	27115	Pine ..	MN
136 ..	42081	Lycoming ..	PA	141 ..	27121	Pope ..	MN
136 ..	42093	Montour ..	PA	141 ..	27149	Stevens ..	MN
136 ..	42097	Northumberland ..	PA	141 ..	27151	Swift ..	MN
136 ..	42109	Snyder ..	PA	141 ..	27153	Todd ..	MN
136 ..	42113	Sullivan ..	PA	141 ..	27159	Wadena ..	MN
136 ..	42119	Union ..	PA	142 ..	06009	Calaveras ..	CA
136 ..	42131	Wyoming ..	PA	142 ..	06043	Mariposa ..	CA
137 ..	27049	Goodhue ..	MN	142 ..	06047	Merced ..	CA

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142 ..	06069	San Benito .....	CA	150 ..	29229	Wright .....	MO
142 ..	06109	Tuolumne .....	CA	151 ..	37067	Forsyth .....	NC
143 ..	33003	Carroll .....	NH	151 ..	37169	Stokes .....	NC
143 ..	33005	Cheshire .....	NH	152 ..	48183	Gregg .....	TX
143 ..	33007	Coos .....	NH	152 ..	48203	Harrison .....	TX
143 ..	33009	Grafton .....	NH	152 ..	48423	Smith .....	TX
143 ..	33019	Sullivan .....	NH	153 ..	55027	Dodge .....	WI
143 ..	50009	Essex .....	VT	153 ..	55039	Fond du Lac .....	WI
143 ..	50017	Orange .....	VT	153 ..	55047	Green Lake .....	WI
143 ..	50025	Windham .....	VT	153 ..	55055	Jefferson .....	WI
143 ..	50027	Windsor .....	VT	153 ..	55127	Walworth .....	WI
144 ..	48063	Camp .....	TX	154 ..	45033	Dillon .....	SC
144 ..	48119	Delta .....	TX	154 ..	45043	Georgetown .....	SC
144 ..	48147	Fannin .....	TX	154 ..	45051	Horry .....	SC
144 ..	48159	Franklin .....	TX	154 ..	45067	Marion .....	SC
144 ..	48223	Hopkins .....	TX	155 ..	55015	Calumet .....	WI
144 ..	48231	Hunt .....	TX	155 ..	55087	Outagamie .....	WI
144 ..	48277	Lamar .....	TX	155 ..	55139	Winnebago .....	WI
144 ..	48379	Rains .....	TX	156 ..	16001	Ada .....	ID
144 ..	48387	Red River .....	TX	157 ..	04012	La Paz .....	AZ
144 ..	48449	Titus .....	TX	157 ..	04027	Yuma .....	AZ
144 ..	48459	Upshur .....	TX	157 ..	06025	Imperial .....	CA
144 ..	48467	Van Zandt .....	TX	158 ..	30029	Flathead .....	MT
144 ..	48499	Wood .....	TX	158 ..	30039	Granite .....	MT
145 ..	47003	Bedford .....	TN	158 ..	30047	Lake .....	MT
145 ..	47015	Cannon .....	TN	158 ..	30049	Lewis and Clark .....	MT
145 ..	47031	Coffee .....	TN	158 ..	30053	Lincoln .....	MT
145 ..	47041	Dekalb .....	TN	158 ..	30061	Mineral .....	MT
145 ..	47051	Franklin .....	TN	158 ..	30063	Missoula .....	MT
145 ..	47055	Giles .....	TN	158 ..	30077	Powell .....	MT
145 ..	47061	Grundy .....	TN	158 ..	30081	Ravalli .....	MT
145 ..	47117	Marshall .....	TN	158 ..	30089	Sanders .....	MT
145 ..	47119	Maury .....	TN	159 ..	13007	Baker .....	GA
145 ..	47127	Moore .....	TN	159 ..	13017	Ben Hill .....	GA
145 ..	47159	Smith .....	TN	159 ..	13019	Berrien .....	GA
145 ..	47175	Van Buren .....	TN	159 ..	13027	Brooks .....	GA
145 ..	47177	Warren .....	TN	159 ..	13037	Calhoun .....	GA
145 ..	47185	White .....	TN	159 ..	13061	Clay .....	GA
146 ..	37019	Brunswick .....	NC	159 ..	13071	Colquitt .....	GA
146 ..	37047	Columbus .....	NC	159 ..	13075	Cook .....	GA
146 ..	37129	New Hanover .....	NC	159 ..	13101	Echols .....	GA
146 ..	37141	Pender .....	NC	159 ..	13155	Irwin .....	GA
147 ..	10005	Sussex .....	DE	159 ..	13173	Lanier .....	GA
147 ..	24039	Somerset .....	MD	159 ..	13185	Lowndes .....	GA
147 ..	24045	Wicomico .....	MD	159 ..	13205	Mitchell .....	GA
147 ..	24047	Worcester .....	MD	159 ..	13243	Randolph .....	GA
147 ..	51001	Accomack .....	VA	159 ..	13273	Terrell .....	GA
147 ..	51131	Northampton .....	VA	159 ..	13277	Tift .....	GA
148 ..	53029	Island .....	WA	159 ..	13287	Turner .....	GA
148 ..	53055	San Juan .....	WA	159 ..	13321	Worth .....	GA
148 ..	53057	Skagit .....	WA	160 ..	48015	Austin .....	TX
148 ..	53073	Whatcom .....	WA	160 ..	48051	Burleson .....	TX
149 ..	28039	George .....	MS	160 ..	48057	Calhoun .....	TX
149 ..	28045	Hancock .....	MS	160 ..	48089	Colorado .....	TX
149 ..	28047	Harrison .....	MS	160 ..	48123	DeWitt .....	TX
149 ..	28059	Jackson .....	MS	160 ..	48149	Fayette .....	TX
149 ..	28131	Stone .....	MS	160 ..	48175	Goliad .....	TX
150 ..	29029	Camden .....	MO	160 ..	48239	Jackson .....	TX
150 ..	29059	Dallas .....	MO	160 ..	48285	Lavaca .....	TX
150 ..	29065	Dent .....	MO	160 ..	48321	Matagorda .....	TX
150 ..	29085	Hickory .....	MO	160 ..	48469	Victoria .....	TX
150 ..	29105	Laclede .....	MO	160 ..	48477	Washington .....	TX
150 ..	29125	Maries .....	MO	160 ..	48481	Wharton .....	TX
150 ..	29131	Miller .....	MO	161 ..	17003	Alexander .....	IL
150 ..	29141	Morgan .....	MO	161 ..	17055	Franklin .....	IL
150 ..	29149	Oregon .....	MO	161 ..	17059	Gallatin .....	IL
150 ..	29161	Phelps .....	MO	161 ..	17065	Hamilton .....	IL
150 ..	29167	Polk .....	MO	161 ..	17069	Hardin .....	IL
150 ..	29169	Pulaski .....	MO	161 ..	17077	Jackson .....	IL
150 ..	29203	Shannon .....	MO	161 ..	17081	Jefferson .....	IL
150 ..	29215	Texas .....	MO	161 ..	17087	Johnson .....	IL
150 ..	29225	Webster .....	MO	161 ..	17145	Perry .....	IL

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161 ..	17151	Pope .....	IL	171 ..	05127	Scott .....	AR
161 ..	17153	Pulaski .....	IL	171 ..	05131	Sebastian .....	AR
161 ..	17157	Randolph .....	IL	171 ..	40061	Haskell .....	OK
161 ..	17165	Saline .....	IL	171 ..	40077	Latimer .....	OK
161 ..	17181	Union .....	IL	171 ..	40079	Le Flore .....	OK
161 ..	17189	Washington .....	IL	171 ..	40135	Sequoyah .....	OK
161 ..	17199	Williamson .....	IL	172 ..	27017	Carlton .....	MN
162 ..	18025	Crawford .....	IN	172 ..	27031	Cook .....	MN
162 ..	18061	Harrison .....	IN	172 ..	27061	Itasca .....	MN
162 ..	18175	Washington .....	IN	172 ..	27071	Koochiching .....	MN
162 ..	21027	Breckinridge .....	KY	172 ..	27075	Lake .....	MN
162 ..	21085	Grayson .....	KY	172 ..	27137	St. Louis .....	MN
162 ..	21093	Hardin .....	KY	172 ..	55031	Douglas .....	WI
162 ..	21123	Larue .....	KY	173 ..	51019	Bedford .....	VA
162 ..	21155	Marion .....	KY	173 ..	51515	Bedford City .....	VA
162 ..	21163	Meade .....	KY	173 ..	51035	Carroll .....	VA
162 ..	21179	Nelson .....	KY	173 ..	51063	Floyd .....	VA
162 ..	21215	Spencer .....	KY	173 ..	51067	Franklin .....	VA
162 ..	21229	Washington .....	KY	173 ..	51071	Giles .....	VA
163 ..	19163	Scott .....	IA	173 ..	51121	Montgomery .....	VA
163 ..	17073	Henry .....	IL	173 ..	51155	Pulaski .....	VA
163 ..	17161	Rock Island .....	IL	173 ..	51750	Radford City .....	VA
164 ..	01001	Autauga .....	AL	173 ..	54063	Monroe .....	WV
164 ..	01051	Elmore .....	AL	174 ..	29043	Christian .....	MO
164 ..	01101	Montgomery .....	AL	174 ..	29077	Greene .....	MO
165 ..	01017	Chambers .....	AL	175 ..	28009	Benton .....	MS
165 ..	01019	Cherokee .....	AL	175 ..	28033	DeSoto .....	MS
165 ..	01029	Cleburne .....	AL	175 ..	28071	Lafayette .....	MS
165 ..	01111	Randolph .....	AL	175 ..	28093	Marshall .....	MS
165 ..	13015	Bartow .....	GA	175 ..	28107	Panola .....	MS
165 ..	13055	Chattanooga .....	GA	175 ..	28119	Quitman .....	MS
165 ..	13115	Floyd .....	GA	175 ..	28137	Tate .....	MS
165 ..	13233	Polk .....	GA	175 ..	28143	Tunica .....	MS
166 ..	06049	Modoc .....	CA	175 ..	28161	Yalobusha .....	MS
166 ..	06089	Shasta .....	CA	176 ..	19015	Boone .....	IA
166 ..	06093	Siskiyou .....	CA	176 ..	19025	Calhoun .....	IA
166 ..	06103	Tehama .....	CA	176 ..	19027	Carroll .....	IA
166 ..	41035	Klamath .....	OR	176 ..	19047	Crawford .....	IA
167 ..	51005	Alleghany .....	VA	176 ..	19073	Greene .....	IA
167 ..	51015	Augusta .....	VA	176 ..	19075	Grundy .....	IA
167 ..	51017	Bath .....	VA	176 ..	19079	Hamilton .....	IA
167 ..	51530	Buena Vista City .....	VA	176 ..	19083	Hardin .....	IA
167 ..	51580	Covington City .....	VA	176 ..	19091	Humboldt .....	IA
167 ..	51660	Harrisonburg City .....	VA	176 ..	19127	Marshall .....	IA
167 ..	51091	Highland .....	VA	176 ..	19161	Sac .....	IA
167 ..	51678	Lexington City .....	VA	176 ..	19169	Story .....	IA
167 ..	51163	Rockbridge .....	VA	176 ..	19171	Tama .....	IA
167 ..	51165	Rockingham .....	VA	176 ..	19187	Webster .....	IA
167 ..	51790	Staunton City .....	VA	176 ..	19197	Wright .....	IA
167 ..	51820	Waynesboro City .....	VA	177 ..	13029	Bryan .....	GA
167 ..	54025	Greenbrier .....	WV	177 ..	13051	Chatham .....	GA
167 ..	54071	Pendleton .....	WV	177 ..	13103	Effingham .....	GA
167 ..	54075	Pocahontas .....	WV	178 ..	20003	Anderson .....	KS
168 ..	17143	Peoria .....	IL	178 ..	20011	Bourbon .....	KS
168 ..	17179	Tazewell .....	IL	178 ..	20059	Franklin .....	KS
168 ..	17203	Woodford .....	IL	178 ..	20107	Linn .....	KS
169 ..	37061	Duplin .....	NC	178 ..	20121	Miami .....	KS
169 ..	37133	Onslow .....	NC	178 ..	29013	Bates .....	MO
169 ..	37191	Wayne .....	NC	178 ..	29015	Benton .....	MO
170 ..	01005	Barbour .....	AL	178 ..	29039	Cedar .....	MO
170 ..	01031	Coffee .....	AL	178 ..	29083	Henry .....	MO
170 ..	01039	Covington .....	AL	178 ..	29101	Johnson .....	MO
170 ..	01045	Dale .....	AL	178 ..	29107	Lafayette .....	MO
170 ..	01061	Geneva .....	AL	178 ..	29159	Pettis .....	MO
170 ..	01067	Henry .....	AL	178 ..	29195	Saline .....	MO
170 ..	01069	Houston .....	AL	178 ..	29185	St. Clair .....	MO
170 ..	12059	Holmes .....	FL	178 ..	29217	Vernon .....	MO
170 ..	12133	Washington .....	FL	179 ..	19007	Appanoose .....	IA
170 ..	13239	Quitman .....	GA	179 ..	19051	Davis .....	IA
171 ..	05033	Crawford .....	AR	179 ..	19057	Des Moines .....	IA
171 ..	05047	Franklin .....	AR	179 ..	19087	Henry .....	IA
171 ..	05083	Logan .....	AR	179 ..	19099	Jasper .....	IA

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179 ..	19101	Jefferson .....	IA	187 ..	16081	Teton .....	ID
179 ..	19107	Keokuk .....	IA	188 ..	36003	Allegany .....	NY
179 ..	19111	Lee .....	IA	188 ..	36009	Cattaraugus .....	NY
179 ..	19123	Mahaska .....	IA	188 ..	36013	Chautauqua .....	NY
179 ..	19125	Marion .....	IA	188 ..	42083	McKean .....	PA
179 ..	19135	Monroe .....	IA	188 ..	42105	Potter .....	PA
179 ..	19157	Powershiek .....	IA	189 ..	22003	Allen Parish .....	LA
179 ..	19177	Van Buren .....	IA	189 ..	22009	Avoyelles Parish .....	LA
179 ..	19179	Wapello .....	IA	189 ..	22011	Beauregard Parish .....	LA
179 ..	17067	Hancock .....	IL	189 ..	22043	Grant Parish .....	LA
179 ..	17071	Henderson .....	IL	189 ..	22059	La Salle Parish .....	LA
179 ..	29045	Clark .....	MO	189 ..	22079	Rapides Parish .....	LA
179 ..	29199	Scotland .....	MO	189 ..	22115	Vernon Parish .....	LA
180 ..	04005	Coconino .....	AZ	190 ..	30019	Daniels .....	MT
180 ..	04025	Yavapai .....	AZ	190 ..	30021	Dawson .....	MT
181 ..	05081	Little River .....	AR	190 ..	30031	Gallatin .....	MT
181 ..	05091	Miller .....	AR	190 ..	30033	Garfield .....	MT
181 ..	05113	Polk .....	AR	190 ..	30037	Golden Valley .....	MT
181 ..	05133	Sevier .....	AR	190 ..	30057	Madison .....	MT
181 ..	40013	Bryan .....	OK	190 ..	30055	McCone .....	MT
181 ..	40023	Choctaw .....	OK	190 ..	30065	Musselshell .....	MT
181 ..	40089	McCurtain .....	OK	190 ..	30067	Park .....	MT
181 ..	40127	Pushmataha .....	OK	190 ..	30069	Petroleum .....	MT
181 ..	48037	Bowie .....	TX	190 ..	30083	Richland .....	MT
181 ..	48067	Cass .....	TX	190 ..	30085	Roosevelt .....	MT
181 ..	48315	Marion .....	TX	190 ..	30091	Sheridan .....	MT
181 ..	48343	Morris .....	TX	190 ..	30095	Stillwater .....	MT
182 ..	19103	Johnson .....	IA	190 ..	30097	Sweet Grass .....	MT
182 ..	19113	Linn .....	IA	190 ..	30105	Valley .....	MT
183 ..	29019	Boone .....	MO	190 ..	30111	Yellowstone .....	MT
183 ..	29027	Callaway .....	MO	191 ..	51007	Amelia .....	VA
183 ..	29051	Cole .....	MO	191 ..	51025	Brunswick .....	VA
183 ..	29053	Cooper .....	MO	191 ..	51029	Buckingham .....	VA
183 ..	29089	Howard .....	MO	191 ..	51037	Charlotte .....	VA
183 ..	29135	Moniteau .....	MO	191 ..	51570	Colonial Heights City .....	VA
183 ..	29151	Osage .....	MO	191 ..	51049	Cumberland .....	VA
184 ..	22021	Caldwell Parish .....	LA	191 ..	51053	Dinwiddie .....	VA
184 ..	22035	East Carroll Parish .....	LA	191 ..	51595	Emporia City .....	VA
184 ..	22041	Franklin Parish .....	LA	191 ..	51081	Greensville .....	VA
184 ..	22049	Jackson Parish .....	LA	191 ..	51670	Hopewell City .....	VA
184 ..	22061	Lincoln Parish .....	LA	191 ..	51111	Lunenburg .....	VA
184 ..	22067	Morehouse Parish .....	LA	191 ..	51117	Mecklenburg .....	VA
184 ..	22073	Ouachita Parish .....	LA	191 ..	51135	Nottoway .....	VA
184 ..	22083	Richland Parish .....	LA	191 ..	51730	Petersburg City .....	VA
184 ..	22111	Union Parish .....	LA	191 ..	51147	Prince Edward .....	VA
184 ..	22123	West Carroll Parish .....	LA	191 ..	51149	Prince George .....	VA
185 ..	26013	Baraga .....	MI	191 ..	51183	Sussex .....	VA
185 ..	26043	Dickinson .....	MI	192 ..	37051	Cumberland .....	NC
185 ..	26053	Gogebic .....	MI	193 ..	20005	Atchison .....	KS
185 ..	26061	Houghton .....	MI	193 ..	20043	Doniphan .....	KS
185 ..	26071	Iron .....	MI	193 ..	20045	Douglas .....	KS
185 ..	26083	Keweenaw .....	MI	193 ..	20103	Leavenworth .....	KS
185 ..	26103	Marquette .....	MI	193 ..	29003	Andrew .....	MO
185 ..	26109	Menominee .....	MI	193 ..	29021	Buchanan .....	MO
185 ..	26131	Ontonagon .....	MI	194 ..	42023	Cameron .....	PA
185 ..	55037	Florence .....	WI	194 ..	42027	Centre .....	PA
185 ..	55051	Iron .....	WI	194 ..	42033	Clearfield .....	PA
185 ..	55075	Marinette .....	WI	194 ..	42047	Elk .....	PA
185 ..	55078	Menominee .....	WI	194 ..	42065	Jefferson .....	PA
185 ..	55083	Oconto .....	WI	195 ..	16009	Benewah .....	ID
185 ..	55115	Shawano .....	WI	195 ..	16017	Bonner .....	ID
186 ..	45023	Chester .....	SC	195 ..	16021	Boundary .....	ID
186 ..	45057	Lancaster .....	SC	195 ..	16035	Clearwater .....	ID
186 ..	45091	York .....	SC	195 ..	16049	Idaho .....	ID
187 ..	16005	Bannock .....	ID	195 ..	16055	Kootenai .....	ID
187 ..	16011	Bingham .....	ID	195 ..	16057	Latah .....	ID
187 ..	16019	Bonneville .....	ID	195 ..	16061	Lewis .....	ID
187 ..	16033	Clark .....	ID	195 ..	16069	Nez Perce .....	ID
187 ..	16043	Fremont .....	ID	195 ..	16079	Shoshone .....	ID
187 ..	16051	Jefferson .....	ID	196 ..	29017	Bollinger .....	MO
187 ..	16065	Madison .....	ID	196 ..	29023	Butler .....	MO
187 ..	16077	Power .....	ID	196 ..	29031	Cape Girardeau .....	MO

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196 ..	29035	Carter .....	MO	203 ..	26133	Osceola .....	MI
196 ..	29093	Iron .....	MO	203 ..	26165	Wexford .....	MI
196 ..	29123	Madison .....	MO	204 ..	21055	Crittenden .....	KY
196 ..	29133	Mississippi .....	MO	204 ..	21059	Daviess .....	KY
196 ..	29143	New Madrid .....	MO	204 ..	21091	Hancock .....	KY
196 ..	29157	Perry .....	MO	204 ..	21101	Henderson .....	KY
196 ..	29179	Reynolds .....	MO	204 ..	21107	Hopkins .....	KY
196 ..	29181	Ripley .....	MO	204 ..	21149	McLean .....	KY
196 ..	29201	Scott .....	MO	204 ..	21177	Muhlenberg .....	KY
196 ..	29207	Stoddard .....	MO	204 ..	21183	Ohio .....	KY
196 ..	29223	Wayne .....	MO	204 ..	21225	Union .....	KY
197 ..	39013	Belmont .....	OH	204 ..	21233	Webster .....	KY
197 ..	39081	Jefferson .....	OH	205 ..	06023	Humboldt .....	CA
197 ..	39111	Monroe .....	OH	205 ..	06033	Lake .....	CA
197 ..	54009	Brooke .....	WV	205 ..	06045	Mendocino .....	CA
197 ..	54029	Hancock .....	WV	205 ..	06105	Trinity .....	CA
197 ..	54051	Marshall .....	WV	206 ..	53001	Adams .....	WA
197 ..	54069	Ohio .....	WV	206 ..	53007	Chelan .....	WA
197 ..	54095	Tyler .....	WV	206 ..	53017	Douglas .....	WA
197 ..	54103	Wetzel .....	WV	206 ..	53025	Grant .....	WA
198 ..	05021	Clay .....	AR	206 ..	53037	Kittitas .....	WA
198 ..	05031	Craighead .....	AR	206 ..	53047	Okanogan .....	WA
198 ..	05055	Greene .....	AR	207 ..	13003	Atkinson .....	GA
198 ..	05075	Lawrence .....	AR	207 ..	13005	Bacon .....	GA
198 ..	05093	Mississippi .....	AR	207 ..	13025	Brantley .....	GA
198 ..	05111	Poinsett .....	AR	207 ..	13039	Camden .....	GA
198 ..	05121	Randolph .....	AR	207 ..	13049	Charlton .....	GA
198 ..	29069	Dunklin .....	MO	207 ..	13065	Clinch .....	GA
198 ..	29155	Pemiscot .....	MO	207 ..	13069	Coffee .....	GA
199 ..	13111	Fannin .....	GA	207 ..	13127	Glynn .....	GA
199 ..	13123	Gilmer .....	GA	207 ..	13191	McIntosh .....	GA
199 ..	13129	Gordon .....	GA	207 ..	13229	Pierce .....	GA
199 ..	13213	Murray .....	GA	207 ..	13299	Ware .....	GA
199 ..	13227	Pickens .....	GA	208 ..	37097	Iredell .....	NC
199 ..	13281	Towns .....	GA	208 ..	37159	Rowan .....	NC
199 ..	13291	Union .....	GA	209 ..	55009	Brown .....	WI
199 ..	13313	Whitfield .....	GA	209 ..	55029	Door .....	WI
200 ..	37033	Caswell .....	NC	209 ..	55061	Kewaunee .....	WI
200 ..	37157	Rockingham .....	NC	210 ..	36007	Broome .....	NY
200 ..	51590	Danville City .....	VA	210 ..	36107	Tioga .....	NY
200 ..	51089	Henry .....	VA	210 ..	42115	Susquehanna .....	PA
200 ..	51690	Martinsville City .....	VA	211 ..	40005	Atoka .....	OK
200 ..	51141	Patrick .....	VA	211 ..	40019	Carter .....	OK
200 ..	51143	Pittsylvania .....	VA	211 ..	40029	Coal .....	OK
201 ..	48019	Bandera .....	TX	211 ..	40033	Cotton .....	OK
201 ..	48127	Dimmit .....	TX	211 ..	40049	Garvin .....	OK
201 ..	48163	Frio .....	TX	211 ..	40063	Hughes .....	OK
201 ..	48171	Gillespie .....	TX	211 ..	40067	Jefferson .....	OK
201 ..	48259	Kendall .....	TX	211 ..	40069	Johnston .....	OK
201 ..	48265	Kerr .....	TX	211 ..	40085	Love .....	OK
201 ..	48283	La Salle .....	TX	211 ..	40095	Marshall .....	OK
201 ..	48323	Maverick .....	TX	211 ..	40099	Murray .....	OK
201 ..	48325	Medina .....	TX	211 ..	40107	Okfuskee .....	OK
201 ..	48385	Real .....	TX	211 ..	40123	Pontotoc .....	OK
201 ..	48463	Uvalde .....	TX	211 ..	40133	Seminole .....	OK
201 ..	48507	Zavala .....	TX	211 ..	40137	Stephens .....	OK
202 ..	01113	Russell .....	AL	212 ..	02020	Anchorage Borough .....	AK
202 ..	13053	Chattahoochee .....	GA	213 ..	41013	Crook .....	OR
202 ..	13145	Harris .....	GA	213 ..	41017	Deschutes .....	OR
202 ..	13197	Marion .....	GA	213 ..	41027	Hood River .....	OR
202 ..	13215	Muscogee .....	GA	213 ..	41031	Jefferson .....	OR
202 ..	13259	Stewart .....	GA	213 ..	41037	Lake .....	OR
202 ..	13307	Webster .....	GA	213 ..	41055	Sherman .....	OR
203 ..	26009	Antrim .....	MI	213 ..	41065	Wasco .....	OR
203 ..	26019	Benzie .....	MI	213 ..	53039	Klickitat .....	WA
203 ..	26055	Grand Traverse .....	MI	213 ..	53059	Skamania .....	WA
203 ..	26079	Kalkaska .....	MI	214 ..	31109	Lancaster .....	NE
203 ..	26085	Lake .....	MI	215 ..	37003	Alexander .....	NC
203 ..	26089	Leelanau .....	MI	215 ..	37023	Burke .....	NC
203 ..	26101	Manistee .....	MI	215 ..	37035	Catawba .....	NC
203 ..	26105	Mason .....	MI	216 ..	20021	Cherokee .....	KS
203 ..	26113	Missaukee .....	MI	216 ..	20037	Crawford .....	KS

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216 ..	29011	Barton .....	MO	229 ..	49001	Beaver .....	UT
216 ..	29097	Jasper .....	MO	229 ..	49017	Garfield .....	UT
216 ..	29145	Newton .....	MO	229 ..	49021	Iron .....	UT
216 ..	40115	Ottawa .....	OK	229 ..	49031	Piute .....	UT
217 ..	48303	Lubbock .....	TX	229 ..	49053	Washington .....	UT
218 ..	55073	Marathon .....	WI	230 ..	37017	Bladen .....	NC
218 ..	55097	Portage .....	WI	230 ..	37093	Hoke .....	NC
218 ..	55141	Wood .....	WI	230 ..	37155	Robeson .....	NC
219 ..	19019	Buchanan .....	IA	230 ..	37165	Scotland .....	NC
219 ..	19021	Buena Vista .....	IA	231 ..	31003	Antelope .....	NE
219 ..	19023	Butler .....	IA	231 ..	31011	Boone .....	NE
219 ..	19033	Cerro Gordo .....	IA	231 ..	31021	Burt .....	NE
219 ..	19037	Chickasaw .....	IA	231 ..	31023	Butler .....	NE
219 ..	19041	Clay .....	IA	231 ..	31025	Cass .....	NE
219 ..	19059	Dickinson .....	IA	231 ..	31037	Colfax .....	NE
219 ..	19063	Emmet .....	IA	231 ..	31039	Cuming .....	NE
219 ..	19065	Fayette .....	IA	231 ..	31053	Dodge .....	NE
219 ..	19067	Floyd .....	IA	231 ..	31119	Madison .....	NE
219 ..	19069	Franklin .....	IA	231 ..	31125	Nance .....	NE
219 ..	19081	Hancock .....	IA	231 ..	31139	Pierce .....	NE
219 ..	19109	Kossuth .....	IA	231 ..	31141	Platte .....	NE
219 ..	19131	Mitchell .....	IA	231 ..	31143	Polk .....	NE
219 ..	19147	Palo Alto .....	IA	231 ..	31155	Saunders .....	NE
219 ..	19151	Pocahontas .....	IA	231 ..	31167	Stanton .....	NE
219 ..	19189	Winnebago .....	IA	231 ..	31177	Washington .....	NE
219 ..	19195	Worth .....	IA	231 ..	31179	Wayne .....	NE
220 ..	48135	Ector .....	TX	232 ..	20013	Brown .....	KS
220 ..	48329	Midland .....	TX	232 ..	20031	Coffey .....	KS
221 ..	48247	Jim Hogg .....	TX	232 ..	20085	Jackson .....	KS
221 ..	48479	Webb .....	TX	232 ..	20087	Jefferson .....	KS
221 ..	48505	Zapata .....	TX	232 ..	20139	Osage .....	KS
222 ..	47029	Cocke .....	TN	232 ..	20177	Shawnee .....	KS
222 ..	47057	Grainger .....	TN	233 ..	37045	Cleveland .....	NC
222 ..	47063	Hamblen .....	TN	233 ..	37109	Lincoln .....	NC
222 ..	47067	Hancock .....	TN	233 ..	37161	Rutherford .....	NC
222 ..	47089	Jefferson .....	TN	234 ..	37057	Davidson .....	NC
222 ..	47155	Sevier .....	TN	234 ..	37059	Davie .....	NC
223 ..	19061	Dubuque .....	IA	234 ..	37197	Yadkin .....	NC
223 ..	19097	Jackson .....	IA	235 ..	48375	Potter .....	TX
223 ..	17085	Jo Daviess .....	IL	235 ..	48381	Randall .....	TX
223 ..	55043	Grant .....	WI	236 ..	31001	Adams .....	NE
223 ..	55045	Green .....	WI	236 ..	31015	Boyd .....	NE
223 ..	55049	Iowa .....	WI	236 ..	31017	Brown .....	NE
223 ..	55065	Lafayette .....	WI	236 ..	31019	Buffalo .....	NE
224 ..	17015	Carroll .....	IL	236 ..	31035	Clay .....	NE
224 ..	17037	DeKalb .....	IL	236 ..	31041	Custer .....	NE
224 ..	17103	Lee .....	IL	236 ..	31047	Dawson .....	NE
224 ..	17141	Ogle .....	IL	236 ..	31071	Garfield .....	NE
224 ..	17177	Stephenson .....	IL	236 ..	31077	Greeley .....	NE
225 ..	27055	Houston .....	MN	236 ..	31079	Hall .....	NE
225 ..	55053	Jackson .....	WI	236 ..	31081	Hamilton .....	NE
225 ..	55063	La Crosse .....	WI	236 ..	31089	Holt .....	NE
225 ..	55081	Monroe .....	WI	236 ..	31093	Howard .....	NE
225 ..	55121	Trempealeau .....	WI	236 ..	31103	Keya Paha .....	NE
225 ..	55123	Vernon .....	WI	236 ..	31115	Loup .....	NE
226 ..	39003	Allen .....	OH	236 ..	31121	Merrick .....	NE
226 ..	39011	Auglaize .....	OH	236 ..	31129	Nuckolls .....	NE
226 ..	39107	Mercer .....	OH	236 ..	31149	Rock .....	NE
226 ..	39137	Putnam .....	OH	236 ..	31163	Sherman .....	NE
226 ..	39161	Van Wert .....	OH	236 ..	31175	Valley .....	NE
227 ..	36045	Jefferson .....	NY	236 ..	31181	Webster .....	NE
227 ..	36049	Lewis .....	NY	236 ..	31183	Wheeler .....	NE
227 ..	36089	St. Lawrence .....	NY	237 ..	13031	Bulloch .....	GA
228 ..	51023	Botetourt .....	VA	237 ..	13043	Candler .....	GA
228 ..	51045	Craig .....	VA	237 ..	13109	Evans .....	GA
228 ..	51161	Roanoke .....	VA	237 ..	13179	Liberty .....	GA
228 ..	51770	Roanoke City .....	VA	237 ..	13183	Long .....	GA
228 ..	51775	Salem City .....	VA	237 ..	13251	Screven .....	GA
229 ..	32009	Esmeralda .....	NV	237 ..	13267	Tattnall .....	GA
229 ..	32017	Lincoln .....	NV	237 ..	13305	Wayne .....	GA
229 ..	32021	Mineral .....	NV	238 ..	45031	Darlington .....	SC
229 ..	32023	Nye .....	NV	238 ..	45041	Florence .....	SC

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238 ..	45089	Williamsburg .....	SC	251 ..	20009	Barton .....	KS
239 ..	37025	Cabarrus .....	NC	251 ..	20033	Comanche .....	KS
239 ..	37167	Stanly .....	NC	251 ..	20047	Edwards .....	KS
240 ..	51003	Albemarle .....	VA	251 ..	20051	Ellis .....	KS
240 ..	51540	Charlottesville City .....	VA	251 ..	20053	Ellsworth .....	KS
240 ..	51065	Fluvanna .....	VA	251 ..	20097	Kiowa .....	KS
240 ..	51079	Greene .....	VA	251 ..	20115	Marion .....	KS
240 ..	51109	Louisa .....	VA	251 ..	20113	McPherson .....	KS
240 ..	51125	Nelson .....	VA	251 ..	20135	Ness .....	KS
241 ..	13001	Appling .....	GA	251 ..	20145	Pawnee .....	KS
241 ..	13107	Emanuel .....	GA	251 ..	20151	Pratt .....	KS
241 ..	13141	Hancock .....	GA	251 ..	20159	Rice .....	KS
241 ..	13161	Jeff Davis .....	GA	251 ..	20165	Rush .....	KS
241 ..	13167	Johnson .....	GA	251 ..	20167	Russell .....	KS
241 ..	13175	Laurens .....	GA	251 ..	20169	Saline .....	KS
241 ..	13209	Montgomery .....	GA	251 ..	20185	Stafford .....	KS
241 ..	13237	Putnam .....	GA	251 ..	20195	Trego .....	KS
241 ..	13271	Telfair .....	GA	252 ..	19035	Cherokee .....	IA
241 ..	13279	Toombs .....	GA	252 ..	19093	Ida .....	IA
241 ..	13283	Treutlen .....	GA	252 ..	19133	Monona .....	IA
241 ..	13303	Washington .....	GA	252 ..	19141	O'Brien .....	IA
241 ..	13309	Wheeler .....	GA	252 ..	19149	Plymouth .....	IA
242 ..	22019	Calcasieu Parish .....	LA	252 ..	19167	Sioux .....	IA
242 ..	22023	Cameron Parish .....	LA	252 ..	19193	Woodbury .....	IA
242 ..	22053	Jefferson Davis Parish .....	LA	252 ..	46127	Union .....	SD
243 ..	17127	Massac .....	IL	253 ..	55001	Adams .....	WI
243 ..	21007	Ballard .....	KY	253 ..	55021	Columbia .....	WI
243 ..	21033	Caldwell .....	KY	253 ..	55023	Crawford .....	WI
243 ..	21035	Calloway .....	KY	253 ..	55057	Juneau .....	WI
243 ..	21039	Carlisle .....	KY	253 ..	55077	Marquette .....	WI
243 ..	21083	Graves .....	KY	253 ..	55103	Richland .....	WI
243 ..	21139	Livingston .....	KY	253 ..	55111	Sauk .....	WI
243 ..	21143	Lyon .....	KY	254 ..	55003	Ashland .....	WI
243 ..	21157	Marshall .....	KY	254 ..	55007	Bayfield .....	WI
243 ..	21145	McCracken .....	KY	254 ..	55019	Clark .....	WI
244 ..	20017	Chase .....	KS	254 ..	55041	Forest .....	WI
244 ..	20027	Clay .....	KS	254 ..	55067	Langlade .....	WI
244 ..	20041	Dickinson .....	KS	254 ..	55069	Lincoln .....	WI
244 ..	20061	Geary .....	KS	254 ..	55085	Oneida .....	WI
244 ..	20111	Lyon .....	KS	254 ..	55099	Price .....	WI
244 ..	20117	Marshall .....	KS	254 ..	55119	Taylor .....	WI
244 ..	20127	Morris .....	KS	254 ..	55125	Vilas .....	WI
244 ..	20131	Nemaha .....	KS	255 ..	28011	Bolivar .....	MS
244 ..	20149	Pottawatomie .....	KS	255 ..	28015	Carroll .....	MS
244 ..	20161	Riley .....	KS	255 ..	28027	Coahoma .....	MS
244 ..	20197	Wabaunsee .....	KS	255 ..	28053	Humphreys .....	MS
244 ..	20201	Washington .....	KS	255 ..	28055	Issaquena .....	MS
245 ..	29009	Barry .....	MO	255 ..	28083	Leflore .....	MS
245 ..	29057	Dade .....	MO	255 ..	28125	Sharkey .....	MS
245 ..	29067	Douglas .....	MO	255 ..	28133	Sunflower .....	MS
245 ..	29091	Howell .....	MO	255 ..	28135	Tallahatchie .....	MS
245 ..	29109	Lawrence .....	MO	255 ..	28151	Washington .....	MS
245 ..	29153	Ozark .....	MO	256 ..	51009	Amherst .....	VA
245 ..	29209	Stone .....	MO	256 ..	51011	Appomattox .....	VA
245 ..	29213	Taney .....	MO	256 ..	51031	Campbell .....	VA
246 ..	01027	Clay .....	AL	256 ..	51083	Halifax .....	VA
246 ..	01037	Coosa .....	AL	256 ..	51680	Lynchburg City .....	VA
246 ..	01081	Lee .....	AL	257 ..	56001	Albany .....	WY
246 ..	01087	Macon .....	AL	257 ..	56005	Campbell .....	WY
246 ..	01123	Tallapoosa .....	AL	257 ..	56009	Converse .....	WY
247 ..	16027	Canyon .....	ID	257 ..	56011	Crook .....	WY
247 ..	16039	Elmore .....	ID	257 ..	56021	Laramie .....	WY
247 ..	16073	Owyhee .....	ID	257 ..	56027	Niobrara .....	WY
248 ..	45027	Clarendon .....	SC	257 ..	56031	Platte .....	WY
248 ..	45055	Kershaw .....	SC	257 ..	56045	Weston .....	WY
248 ..	45061	Lee .....	SC	258 ..	01009	Blount .....	AL
248 ..	45085	Sumter .....	SC	258 ..	01043	Cullman .....	AL
249 ..	48041	Brazos .....	TX	258 ..	01057	Fayette .....	AL
249 ..	48185	Grimes .....	TX	258 ..	01093	Marion .....	AL
250 ..	35013	Dona Ana .....	NM	258 ..	01133	Winston .....	AL
250 ..	35051	Sierra .....	NM	259 ..	35005	Chaves .....	NM
251 ..	20007	Barber .....	KS	259 ..	35015	Eddy .....	NM

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259 ..	35025	Lea ..	NM	273 ..	17039	De Witt ..	IL
259 ..	48165	Gaines ..	TX	273 ..	17113	McLean ..	IL
259 ..	48501	Yoakum ..	TX	274 ..	16013	Blaine ..	ID
260 ..	26007	Alpena ..	MI	274 ..	16025	Camas ..	ID
260 ..	26029	Charlevoix ..	MI	274 ..	16031	Cassia ..	ID
260 ..	26031	Cheboygan ..	MI	274 ..	16047	Gooding ..	ID
260 ..	26039	Crawford ..	MI	274 ..	16053	Jerome ..	ID
260 ..	26047	Emmet ..	MI	274 ..	16063	Lincoln ..	ID
260 ..	26119	Montmorency ..	MI	274 ..	16067	Minidoka ..	ID
260 ..	26135	Oscoda ..	MI	274 ..	16083	Twin Falls ..	ID
260 ..	26137	Otsego ..	MI	275 ..	48001	Anderson ..	TX
260 ..	26141	Presque Isle ..	MI	275 ..	48213	Henderson ..	TX
260 ..	26143	Roscommon ..	MI	275 ..	48349	Navarro ..	TX
261 ..	27027	Clay ..	MN	276 ..	30011	Carter ..	MT
261 ..	38017	Cass ..	ND	276 ..	38001	Adams ..	ND
262 ..	45013	Beaufort ..	SC	276 ..	46019	Butte ..	SD
262 ..	45049	Hampton ..	SC	276 ..	46033	Custer ..	SD
262 ..	45053	Jasper ..	SC	276 ..	46047	Fall River ..	SD
263 ..	35019	Guadalupe ..	NM	276 ..	46063	Harding ..	SD
263 ..	35028	Los Alamos ..	NM	276 ..	46081	Lawrence ..	SD
263 ..	35033	Mora ..	NM	276 ..	46093	Meade ..	SD
263 ..	35047	San Miguel ..	NM	276 ..	46103	Pennington ..	SD
263 ..	35049	Santa Fe ..	NM	276 ..	46105	Perkins ..	SD
264 ..	02013	Aleutians East Borough ..	AK	277 ..	20035	Cowley ..	KS
264 ..	02016	Aleutians West Census Area ..	AK	277 ..	20049	Elk ..	KS
264 ..	02050	Bethel Census Area ..	AK	277 ..	20073	Greenwood ..	KS
264 ..	02060	Bristol Bay Borough ..	AK	277 ..	20077	Harper ..	KS
264 ..	02070	Dillingham Census Area ..	AK	277 ..	20079	Harvey ..	KS
264 ..	02122	Kenai Peninsula Borough ..	AK	277 ..	20095	Kingman ..	KS
264 ..	02150	Kodiak Island Borough ..	AK	277 ..	20155	Reno ..	KS
264 ..	02164	Lake and Peninsula Borough ..	AK	277 ..	20191	Sumner ..	KS
264 ..	02170	Matanuska-Susitna Borough ..	AK	278 ..	20001	Allen ..	KS
264 ..	02261	Valdez-Cordova Census Area ..	AK	278 ..	20019	Chautauqua ..	KS
265 ..	19089	Howard ..	IA	278 ..	20099	Labette ..	KS
265 ..	19191	Winneshiek ..	IA	278 ..	20125	Montgomery ..	KS
265 ..	27039	Dodge ..	MN	278 ..	20133	Neosho ..	KS
265 ..	27045	Fillmore ..	MN	278 ..	20205	Wilson ..	KS
265 ..	27099	Mower ..	MN	278 ..	20207	Woodson ..	KS
265 ..	27157	Wabasha ..	MN	278 ..	40035	Craig ..	OK
265 ..	27169	Winona ..	MN	278 ..	40105	Nowata ..	OK
265 ..	55011	Buffalo ..	WI	278 ..	40147	Washington ..	OK
266 ..	37009	Ashe ..	NC	279 ..	16041	Franklin ..	ID
266 ..	37011	Avery ..	NC	279 ..	16071	Oneida ..	ID
266 ..	37027	Caldwell ..	NC	279 ..	49003	Box Elder ..	UT
266 ..	37189	Watauga ..	NC	279 ..	49005	Cache ..	UT
266 ..	47091	Johnson ..	TN	280 ..	20025	Clark ..	KS
267 ..	55071	Manitowoc ..	WI	280 ..	20055	Finney ..	KS
267 ..	55117	Sheboygan ..	WI	280 ..	20057	Ford ..	KS
268 ..	19031	Cedar ..	IA	280 ..	20067	Grant ..	KS
268 ..	19045	Clinton ..	IA	280 ..	20069	Gray ..	KS
268 ..	19115	Louisa ..	IA	280 ..	20071	Greeley ..	KS
268 ..	19139	Muscatine ..	IA	280 ..	20075	Hamilton ..	KS
268 ..	17131	Mercer ..	IL	280 ..	20081	Haskell ..	KS
268 ..	17195	Whiteside ..	IL	280 ..	20083	Hodgeman ..	KS
269 ..	55101	Racine ..	WI	280 ..	20093	Kearny ..	KS
270 ..	17011	Bureau ..	IL	280 ..	20101	Lane ..	KS
270 ..	17099	La Salle ..	IL	280 ..	20119	Meade ..	KS
270 ..	17105	Livingston ..	IL	280 ..	20129	Morton ..	KS
270 ..	17155	Putnam ..	IL	280 ..	20171	Scott ..	KS
271 ..	36015	Chemung ..	NY	280 ..	20175	Seward ..	KS
271 ..	42015	Bradford ..	PA	280 ..	20187	Stanton ..	KS
271 ..	42117	Tioga ..	PA	280 ..	20189	Stevens ..	KS
272 ..	48035	Bosque ..	TX	280 ..	20203	Wichita ..	KS
272 ..	48049	Brown ..	TX	280 ..	40007	Beaver ..	OK
272 ..	48083	Coleman ..	TX	280 ..	40025	Cimarron ..	OK
272 ..	48093	Comanche ..	TX	280 ..	40139	Texas ..	OK
272 ..	48133	Eastland ..	TX	281 ..	40091	McIntosh ..	OK
272 ..	48143	Erath ..	TX	281 ..	40101	Muskogee ..	OK
272 ..	48193	Hamilton ..	TX	281 ..	40111	Oklmulgee ..	OK
272 ..	48217	Hill ..	TX	281 ..	40121	Pittsburg ..	OK
272 ..	48333	Mills ..	TX	282 ..	17057	Fulton ..	IL
272 ..	48425	Somervell ..	TX	282 ..	17095	Knox ..	IL

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282 ..	17123	Marshall .....	IL	297 ..	41063	Wallowa .....	OR
282 ..	17125	Mason .....	IL	297 ..	41069	Wheeler .....	OR
282 ..	17109	McDonough .....	IL	298 ..	02068	Denali Borough .....	AK
282 ..	17175	Stark .....	IL	298 ..	02090	Fairbanks North Star Borough .....	AK
282 ..	17187	Warren .....	IL	298 ..	02180	Nome Census Area .....	AK
283 ..	36019	Clinton .....	NY	298 ..	02185	North Slope Borough .....	AK
283 ..	36031	Essex .....	NY	298 ..	02188	Northwest Arctic Borough .....	AK
283 ..	36033	Franklin .....	NY	298 ..	02240	Southeast Fairbanks Census Area .....	AK
284 ..	45001	Abbeville .....	SC	298 ..	02270	Wade Hampton Census Area .....	AK
284 ..	45047	Greenwood .....	SC	298 ..	02290	Yukon-Koyukuk Census Area .....	AK
284 ..	45059	Laurens .....	SC	299 ..	29001	Adair .....	MO
284 ..	45065	McCormick .....	SC	299 ..	29025	Caldwell .....	MO
285 ..	04001	Apache .....	AZ	299 ..	29033	Carroll .....	MO
285 ..	35006	Cibola .....	NM	299 ..	29049	Clinton .....	MO
285 ..	35031	McKinley .....	NM	299 ..	29061	Daviess .....	MO
286 ..	46099	Minnehaha .....	SD	299 ..	29063	Dekalb .....	MO
287 ..	55059	Kenosha .....	WI	299 ..	29079	Grundy .....	MO
288 ..	48059	Callahan .....	TX	299 ..	29081	Harrison .....	MO
288 ..	48253	Jones .....	TX	299 ..	29103	Knox .....	MO
288 ..	48441	Taylor .....	TX	299 ..	29117	Livingston .....	MO
289 ..	49007	Carbon .....	UT	299 ..	29129	Mercer .....	MO
289 ..	49013	Duchesne .....	UT	299 ..	29171	Putnam .....	MO
289 ..	49015	Emery .....	UT	299 ..	29197	Schuylerville .....	MO
289 ..	49019	Grand .....	UT	299 ..	29211	Sullivan .....	MO
289 ..	49029	Morgan .....	UT	299 ..	30111	Bullock .....	AL
289 ..	49043	Summit .....	UT	300 ..	30113	Butler .....	AL
289 ..	49047	Uintah .....	UT	300 ..	30141	Crenshaw .....	AL
289 ..	49051	Wasatch .....	UT	300 ..	30147	Dallas .....	AL
289 ..	49055	Wayne .....	UT	300 ..	30185	Lowndes .....	AL
290 ..	27011	Big Stone .....	MN	300 ..	301105	Perry .....	AL
290 ..	27117	Pipestone .....	MN	300 ..	301109	Pike .....	AL
290 ..	27133	Rock .....	MN	300 ..	301109	Olmsted .....	MN
290 ..	27155	Traverse .....	MN	301 ..	30003	Alfalfa .....	OK
290 ..	46005	Beadle .....	SD	302 ..	40003	Blaine .....	OK
290 ..	46011	Brookings .....	SD	302 ..	40011	Caddo .....	OK
290 ..	46025	Clark .....	SD	302 ..	40015	Garfield .....	OK
290 ..	46029	Codington .....	SD	302 ..	40047	Grant .....	OK
290 ..	46039	Deuel .....	SD	302 ..	40053	Kingfisher .....	OK
290 ..	46051	Grant .....	SD	302 ..	40073	Major .....	OK
290 ..	46057	Hamlin .....	SD	302 ..	40093	Woods .....	OK
290 ..	46077	Kingsbury .....	SD	302 ..	40151	Blaine .....	MT
290 ..	46079	Lake .....	SD	303 ..	30005	Chouteau .....	MT
290 ..	46097	Miner .....	SD	303 ..	30013	Glacier .....	MT
290 ..	46101	Moody .....	SD	303 ..	30015	Hill .....	MT
290 ..	46109	Roberts .....	SD	303 ..	30041	Liberty .....	MT
290 ..	46111	Sanborn .....	SD	303 ..	30051	Pondera .....	MT
291 ..	37123	Montgomery .....	NC	303 ..	30073	Teton .....	MT
291 ..	37125	Moore .....	NC	303 ..	30099	Toole .....	MT
291 ..	37153	Richmond .....	NC	303 ..	30101	Washita .....	OK
292 ..	80101	Pueblo .....	CO	303 ..	37171	Surry .....	NC
293 ..	21221	Trigg .....	KY	304 ..	37193	Wilkes .....	NC
293 ..	47081	Hickman .....	TN	304 ..	40009	Beckham .....	OK
293 ..	47083	Houston .....	TN	305 ..	40039	Custer .....	OK
293 ..	47085	Humphreys .....	TN	305 ..	40043	Dewey .....	OK
293 ..	47099	Lawrence .....	TN	305 ..	40045	Ellis .....	OK
293 ..	47101	Lewis .....	TN	305 ..	40055	Greer .....	OK
293 ..	47135	Perry .....	TN	305 ..	40057	Harmon .....	OK
293 ..	47161	Stewart .....	TN	305 ..	40059	Harper .....	OK
293 ..	47181	Wayne .....	TN	305 ..	40065	Jackson .....	OK
294 ..	19013	Black Hawk .....	IA	305 ..	40075	Kiowa .....	OK
294 ..	19017	Bremer .....	IA	305 ..	40129	Roger Mills .....	OK
295 ..	40071	Kay .....	OK	305 ..	40149	Woodward .....	OK
295 ..	40103	Noble .....	OK	305 ..	48077	Clay .....	TX
295 ..	40117	Pawnee .....	OK	305 ..	48485	Wichita .....	TX
295 ..	40119	Payne .....	OK	306 ..	19119	Lyon .....	IA
296 ..	42107	Schuykill .....	PA	306 ..	31027	Cedar .....	NE
297 ..	41001	Baker .....	OR	307 ..	31107	Knox .....	NE
297 ..	41021	Gilliam .....	OR	307 ..	46009	Bon Homme .....	SD
297 ..	41023	Grant .....	OR	307 ..	46027	Clay .....	SD
297 ..	41049	Morrow .....	OR	307 ..	46061	Hanson .....	SD
297 ..	41059	Umatilla .....	OR	307 ..			
297 ..	41061	Union .....	OR	307 ..			

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307 ..	46067	Hutchinson .....	SD	317 ..	31127	Nemaha .....	NE
307 ..	46083	Lincoln .....	SD	317 ..	31131	Otoe .....	NE
307 ..	46087	McCook .....	SD	317 ..	31133	Pawnee .....	NE
307 ..	46125	Turner .....	SD	317 ..	31147	Richardson .....	NE
307 ..	46135	Yankton .....	SD	317 ..	31151	Saline .....	NE
308 ..	13079	Crawford .....	GA	317 ..	31159	Seward .....	NE
308 ..	13081	Crisp .....	GA	317 ..	31169	Thayer .....	NE
308 ..	13093	Dooly .....	GA	317 ..	31185	York .....	NE
308 ..	13193	Macon .....	GA	318 ..	27069	Kitton .....	MN
308 ..	13207	Monroe .....	GA	318 ..	27077	Lake of the Woods .....	MN
308 ..	13249	Schley .....	GA	318 ..	27089	Marshall .....	MN
308 ..	13261	Sumter .....	GA	318 ..	27113	Pennington .....	MN
308 ..	13269	Taylor .....	GA	318 ..	27125	Red Lake .....	MN
309 ..	37015	Bertie .....	NC	318 ..	27135	Roseau .....	MN
309 ..	37029	Camden .....	NC	318 ..	38005	Benson .....	ND
309 ..	37041	Chowan .....	NC	318 ..	38019	Cavalier .....	ND
309 ..	37073	Gates .....	NC	318 ..	38027	Eddy .....	ND
309 ..	37091	Hertford .....	NC	318 ..	38063	Nelson .....	ND
309 ..	37139	Pasquotank .....	NC	318 ..	38067	Pembina .....	ND
309 ..	37143	Perquimans .....	NC	318 ..	38071	Ramsey .....	ND
310 ..	29055	Crawford .....	MO	318 ..	38079	Rolette .....	ND
310 ..	29187	St. Francois .....	MO	318 ..	38091	Steele .....	ND
310 ..	29186	Ste. Genevieve .....	MO	318 ..	38095	Towner .....	ND
310 ..	29221	Washington .....	MO	318 ..	38097	Trail .....	ND
311 ..	08003	Alamosa .....	CO	318 ..	38099	Walsh .....	ND
311 ..	08009	Baca .....	CO	319 ..	13095	Dougherty .....	GA
311 ..	08011	Bent .....	CO	319 ..	13177	Lee .....	GA
311 ..	08017	Cheyenne .....	CO	320 ..	48235	Irion .....	TX
311 ..	08021	Conejos .....	CO	320 ..	48413	Schleicher .....	TX
311 ..	08023	Costilla .....	CO	320 ..	48435	Sutton .....	TX
311 ..	08025	Crowley .....	CO	320 ..	48451	Tom Green .....	TX
311 ..	08055	Huerfano .....	CO	321 ..	18029	Dearborn .....	IN
311 ..	08061	Kiowa .....	CO	321 ..	18047	Franklin .....	IN
311 ..	08071	Las Animas .....	CO	321 ..	18115	Ohio .....	IN
311 ..	08079	Mineral .....	CO	321 ..	18137	Ripley .....	IN
311 ..	08089	Otero .....	CO	321 ..	18155	Switzerland .....	IN
311 ..	08099	Prowers .....	CO	322 ..	38009	Bottineau .....	ND
311 ..	08105	Rio Grande .....	CO	322 ..	38013	Burke .....	ND
311 ..	08109	Saguache .....	CO	322 ..	38023	Divide .....	ND
311 ..	35007	Colfax .....	NM	322 ..	38049	McHenry .....	ND
312 ..	35045	San Juan .....	NM	322 ..	38053	McKenzie .....	ND
313 ..	48021	Bastrop .....	TX	322 ..	38061	Mountrail .....	ND
313 ..	48055	Caldwell .....	TX	322 ..	38075	Renville .....	ND
313 ..	48287	Lee .....	TX	322 ..	38101	Ward .....	ND
314 ..	48073	Cherokee .....	TX	322 ..	38105	Williams .....	ND
314 ..	48365	Panola .....	TX	323 ..	35003	Catron .....	NM
314 ..	48401	Rusk .....	TX	323 ..	35053	Socorro .....	NM
315 ..	30003	Big Horn .....	MT	323 ..	35057	Torrance .....	NM
315 ..	30009	Carbon .....	MT	323 ..	35061	Valencia .....	NM
315 ..	30017	Custer .....	MT	324 ..	42103	Pike .....	PA
315 ..	30025	Fallon .....	MT	324 ..	42127	Wayne .....	PA
315 ..	30075	Powder River .....	MT	325 ..	38015	Burleigh .....	ND
315 ..	30079	Prairie .....	MT	325 ..	38059	Morton .....	ND
315 ..	30087	Rosebud .....	MT	326 ..	27005	Becker .....	MN
315 ..	30103	Treasure .....	MT	326 ..	27087	Mahnomen .....	MN
315 ..	56003	Big Horn .....	WY	326 ..	27107	Norman .....	MN
315 ..	56019	Johnson .....	WY	326 ..	27111	Otter Tail .....	MN
315 ..	56029	Park .....	WY	326 ..	27167	Wilkin .....	MN
315 ..	56033	Sheridan .....	WY	327 ..	45017	Calhoun .....	SC
316 ..	16007	Bear Lake .....	ID	327 ..	45075	Orangeburg .....	SC
316 ..	16029	Caribou .....	ID	328 ..	04017	Navajo .....	AZ
316 ..	49009	Daggett .....	UT	329 ..	48047	Brooks .....	TX
316 ..	49033	Rich .....	UT	329 ..	48131	Duval .....	TX
316 ..	56007	Carbon .....	WY	329 ..	48249	Jim Wells .....	TX
316 ..	56023	Lincoln .....	WY	329 ..	48261	Kenedy .....	TX
316 ..	56035	Sublette .....	WY	329 ..	48273	Kleberg .....	TX
316 ..	56037	Sweetwater .....	WY	329 ..	48297	Live Oak .....	TX
316 ..	56041	Uinta .....	WY	329 ..	48311	McMullen .....	TX
317 ..	31059	Fillmore .....	NE	330 ..	17033	Crawford .....	IL
317 ..	31067	Gage .....	NE	330 ..	17047	Edwards .....	IL
317 ..	31095	Jefferson .....	NE	330 ..	17101	Lawrence .....	IL
317 ..	31097	Johnson .....	NE	330 ..	17159	Richland .....	IL

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330 ..	17185	Wabash .....	IL	342 ..	46073	Jerauld .....	SD
330 ..	17191	Wayne .....	IL	342 ..	46085	Lyman .....	SD
330 ..	17193	White .....	IL	342 ..	46117	Stanley .....	SD
331 ..	48079	Cochran .....	TX	342 ..	46119	Sully .....	SD
331 ..	48189	Hale .....	TX	342 ..	46123	Tripp .....	SD
331 ..	48219	Hockley .....	TX	343 ..	48043	Brewster .....	TX
331 ..	48279	Lamb .....	TX	343 ..	48103	Crane .....	TX
331 ..	48305	Lynn .....	TX	343 ..	48105	Crockett .....	TX
331 ..	48437	Swisher .....	TX	343 ..	48243	Jeff Davis .....	TX
331 ..	48445	Terry .....	TX	343 ..	48301	Loving .....	TX
332 ..	37007	Anson .....	NC	343 ..	48371	Pecos .....	TX
332 ..	45025	Chesterfield .....	SC	343 ..	48377	Presidio .....	TX
332 ..	45069	Marlboro .....	SC	343 ..	48383	Reagan .....	TX
333 ..	39037	Darke .....	OH	343 ..	48389	Reeves .....	TX
333 ..	39149	Shelby .....	OH	343 ..	48443	Terrell .....	TX
334 ..	48011	Armstrong .....	TX	343 ..	48461	Upton .....	TX
334 ..	48065	Carson .....	TX	343 ..	48475	Ward .....	TX
334 ..	48075	Childress .....	TX	343 ..	48495	Winkler .....	TX
334 ..	48087	Collingsworth .....	TX	344 ..	01007	Bibb .....	AL
334 ..	48101	Cottle .....	TX	344 ..	01021	Chilton .....	AL
334 ..	48129	Donley .....	TX	344 ..	01065	Hale .....	AL
334 ..	48179	Gray .....	TX	345 ..	45039	Fairfield .....	SC
334 ..	48191	Hall .....	TX	345 ..	45071	Newberry .....	SC
334 ..	48195	Hansford .....	TX	345 ..	45081	Saluda .....	SC
334 ..	48211	Hemphill .....	TX	346 ..	37039	Cherokee .....	NC
334 ..	48233	Hutchinson .....	TX	346 ..	37043	Clay .....	NC
334 ..	48295	Lipscomb .....	TX	346 ..	37075	Graham .....	NC
334 ..	48357	Ochiltree .....	TX	346 ..	37113	Macon .....	NC
334 ..	48393	Roberts .....	TX	347 ..	22037	East Feliciana Parish .....	LA
334 ..	48483	Wheeler .....	TX	347 ..	22077	Pointe Coupee Parish .....	LA
335 ..	22031	De Soto Parish .....	LA	347 ..	22091	St. Helena Parish .....	LA
335 ..	22069	Natchitoches Parish .....	LA	347 ..	22125	West Feliciana Parish .....	LA
335 ..	22081	Red River Parish .....	LA	347 ..	28157	Wilkinson .....	MS
335 ..	22085	Sabine Parish .....	LA	348 ..	46013	Brown .....	SD
336 ..	27119	Polk .....	MN	348 ..	46021	Campbell .....	SD
336 ..	38035	Grand Forks .....	ND	348 ..	46037	Day .....	SD
337 ..	48097	Cooke .....	TX	348 ..	46041	Dewey .....	SD
337 ..	48237	Jack .....	TX	348 ..	46045	Edmunds .....	SD
337 ..	48337	Montague .....	TX	348 ..	46049	Faulk .....	SD
337 ..	48363	Palo Pinto .....	TX	348 ..	46091	Marshall .....	SD
338 ..	08007	Archuleta .....	CO	348 ..	46089	McPherson .....	SD
338 ..	08033	Dolores .....	CO	348 ..	46107	Potter .....	SD
338 ..	08067	La Plata .....	CO	348 ..	46115	Spink .....	SD
338 ..	08083	Montezuma .....	CO	348 ..	46129	Walworth .....	SD
338 ..	08111	San Juan .....	CO	348 ..	46137	Ziebach .....	SD
339 ..	31007	Banner .....	NE	349 ..	37111	McDowell .....	NC
339 ..	31013	Box Butte .....	NE	349 ..	37121	Mitchell .....	NC
339 ..	31033	Cheyenne .....	NE	349 ..	37199	Yancey .....	NC
339 ..	31045	Dawes .....	NE	350 ..	05037	Cross .....	AR
339 ..	31055	Kimball .....	NE	350 ..	05077	Lee .....	AR
339 ..	31123	Morrill .....	NE	350 ..	05107	Phillips .....	AR
339 ..	31157	Scotts Bluff .....	NE	350 ..	05123	St. Francis .....	AR
339 ..	31165	Sioux .....	NE	351 ..	30109	Wibaux .....	MT
339 ..	56015	Goshen .....	WY	351 ..	38007	Billings .....	ND
340 ..	35009	Curry .....	NM	351 ..	38011	Bowman .....	ND
340 ..	35011	DeBaca .....	NM	351 ..	38025	Dunn .....	ND
340 ..	35021	Harding .....	NM	351 ..	38029	Emmons .....	ND
340 ..	35037	Quay .....	NM	351 ..	38033	Golden Valley .....	ND
340 ..	35041	Roosevelt .....	NM	351 ..	38037	Grant .....	ND
340 ..	35059	Union .....	NM	351 ..	38041	Hettinger .....	ND
341 ..	35027	Lincoln .....	NM	351 ..	38043	Kidder .....	ND
341 ..	35035	Otero .....	NM	351 ..	38047	Logan .....	ND
342 ..	46003	Aurora .....	SD	351 ..	38051	McIntosh .....	ND
342 ..	46015	Brule .....	SD	351 ..	38055	McLean .....	ND
342 ..	46017	Buffalo .....	SD	351 ..	38057	Mercer .....	ND
342 ..	46023	Charles Mix .....	SD	351 ..	38065	Oliver .....	ND
342 ..	46035	Davison .....	SD	351 ..	38085	Sioux .....	ND
342 ..	46043	Douglas .....	SD	351 ..	38087	Slope .....	ND
342 ..	46053	Gregory .....	SD	351 ..	38089	Stark .....	ND
342 ..	46059	Hand .....	SD	351 ..	46031	Corson .....	SD
342 ..	46065	Hughes .....	SD	352 ..	48177	Gonzales .....	TX
342 ..	46069	Hyde .....	SD	352 ..	48255	Karnes .....	TX

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PEA No.	Federal Information Processing System No.	County name	State	PEA No.	Federal Information Processing System No.	County name	State
352 ..	48493	Wilson .....	TX	368 ..	20089	Jewell .....	KS
353 ..	17075	Iroquois .....	IL	368 ..	20105	Lincoln .....	KS
353 ..	18073	Jasper .....	IN	368 ..	20123	Mitchell .....	KS
353 ..	18111	Newton .....	IN	368 ..	20137	Norton .....	KS
354 ..	55135	Waupaca .....	WI	368 ..	20141	Osborne .....	KS
354 ..	55137	Waushara .....	WI	368 ..	20143	Ottawa .....	KS
355 ..	56025	Natrona .....	WY	368 ..	20147	Phillips .....	KS
356 ..	53019	Ferry .....	WA	368 ..	20153	Rawlins .....	KS
356 ..	53043	Lincoln .....	WA	368 ..	20157	Republic .....	KS
356 ..	53051	Pend Oreille .....	WA	368 ..	20163	Rooks .....	KS
356 ..	53065	Stevens .....	WA	368 ..	20183	Smith .....	KS
357 ..	35039	Rio Arriba .....	NM	369 ..	19003	Adams .....	IA
357 ..	35055	Taos .....	NM	369 ..	19071	Fremont .....	IA
358 ..	48031	Blanco .....	TX	369 ..	19129	Mills .....	IA
358 ..	48053	Burnet .....	TX	369 ..	19137	Montgomery .....	IA
358 ..	48299	Llano .....	TX	369 ..	19145	Page .....	IA
359 ..	08075	Logan .....	CO	369 ..	19173	Taylor .....	IA
359 ..	08087	Morgan .....	CO	369 ..	29005	Atchison .....	MO
359 ..	08095	Phillips .....	CO	370 ..	19011	Benton .....	IA
359 ..	08121	Washington .....	CO	370 ..	19095	Iowa .....	IA
359 ..	08125	Yuma .....	CO	370 ..	19183	Washington .....	IA
359 ..	31057	Dundy .....	NE	371 ..	37005	Alleghany .....	NC
360 ..	02100	Haines Borough .....	AK	371 ..	51640	Galax City .....	VA
360 ..	02105	Hoonah-Angoon Census Area	AK	371 ..	51077	Grayson .....	VA
360 ..	02110	Juneau Borough .....	AK	371 ..	51197	Wythe .....	VA
360 ..	02130	Ketchikan Gateway Borough ..	AK	372 ..	08039	Elbert .....	CO
360 ..	02195	Petersburg .....	AK	372 ..	08063	Kit Carson .....	CO
360 ..	02198	Prince of Wales-Hyder .....	AK	372 ..	08073	Lincoln .....	CO
360 ..	02220	Sitka Borough .....	AK	372 ..	20023	Cheyenne .....	KS
360 ..	02230	Skagway Municipality .....	AK	372 ..	20063	Gove .....	KS
360 ..	02275	Wrangell .....	AK	372 ..	20109	Logan .....	KS
360 ..	02282	Yakutat Borough .....	AK	372 ..	20179	Sheridan .....	KS
361 ..	49023	Juab .....	UT	372 ..	20181	Sherman .....	KS
361 ..	49027	Millard .....	UT	372 ..	20193	Thomas .....	KS
361 ..	49039	Sanpete .....	UT	372 ..	20199	Wallace .....	KS
361 ..	49041	Sevier .....	UT	373 ..	53013	Columbia .....	WA
362 ..	16003	Adams .....	ID	373 ..	53071	Walla Walla .....	WA
362 ..	16015	Boise .....	ID	374 ..	08115	Sedgwick .....	CO
362 ..	16045	Gem .....	ID	374 ..	31005	Arthur .....	NE
362 ..	16075	Payette .....	ID	374 ..	31009	Blaine .....	NE
362 ..	16085	Valley .....	ID	374 ..	31029	Chase .....	NE
362 ..	16087	Washington .....	ID	374 ..	31049	Deuel .....	NE
363 ..	48003	Andrews .....	TX	374 ..	31069	Garden .....	NE
363 ..	48033	Borden .....	TX	374 ..	31091	Hooker .....	NE
363 ..	48115	Dawson .....	TX	374 ..	31101	Keith .....	NE
363 ..	48173	Glasscock .....	TX	374 ..	31111	Lincoln .....	NE
363 ..	48227	Howard .....	TX	374 ..	31113	Logan .....	NE
363 ..	48317	Martin .....	TX	374 ..	31117	McPherson .....	NE
364 ..	30001	Beaverhead .....	MT	374 ..	31135	Perkins .....	NE
364 ..	30007	Broadwater .....	MT	374 ..	31171	Thomas .....	NE
364 ..	30023	Deer Lodge .....	MT	375 ..	35017	Grant .....	NM
364 ..	30043	Jefferson .....	MT	375 ..	35023	Hidalgo .....	NM
364 ..	30093	Silver Bow .....	MT	375 ..	35029	Luna .....	NM
365 ..	40141	Tillman .....	OK	376 ..	48111	Dallam .....	TX
365 ..	48009	Archer .....	TX	376 ..	48117	Deaf Smith .....	TX
365 ..	48023	Baylor .....	TX	376 ..	48205	Hartley .....	TX
365 ..	48155	Foard .....	TX	376 ..	48341	Moore .....	TX
365 ..	48197	Hardeman .....	TX	376 ..	48359	Oldham .....	TX
365 ..	48429	Stephens .....	TX	376 ..	48421	Sherman .....	TX
365 ..	48447	Throckmorton .....	TX	377 ..	01023	Choctaw .....	AL
365 ..	48487	Wilbarger .....	TX	377 ..	01063	Greene .....	AL
365 ..	48503	Young .....	TX	377 ..	01091	Marengo .....	AL
366 ..	53003	Asotin .....	WA	377 ..	01119	Sumter .....	AL
366 ..	53023	Garfield .....	WA	378 ..	13033	Burke .....	GA
366 ..	53075	Whitman .....	WA	378 ..	13125	Glascock .....	GA
367 ..	29007	Audrain .....	MO	378 ..	13163	Jefferson .....	GA
367 ..	29137	Monroe .....	MO	378 ..	13165	Jenkins .....	GA
367 ..	29175	Randolph .....	MO	378 ..	13301	Warren .....	GA
367 ..	29205	Shelby .....	MO	379 ..	26033	Chippewa .....	MI
368 ..	20029	Cloud .....	KS	379 ..	26095	Luce .....	MI
368 ..	20039	Decatur .....	KS	379 ..	26097	Mackinac .....	MI
368 ..	20065	Graham .....	KS	380 ..	26003	Alger .....	MI

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380 ..	26041	Delta .....	MI	397 ..	01075	Lamar .....	AL
380 ..	26153	Schoolcraft .....	MI	397 ..	01107	Pickens .....	AL
381 ..	48137	Edwards .....	TX	398 ..	31043	Dakota .....	NE
381 ..	48271	Kinney .....	TX	398 ..	31051	Dixon .....	NE
381 ..	48465	Val Verde .....	TX	398 ..	31173	Thurston .....	NE
382 ..	56013	Fremont .....	WY	399 ..	48281	Lampasas .....	TX
382 ..	56017	Hot Springs .....	WY	399 ..	48411	San Saba .....	TX
382 ..	56043	Washakie .....	WY	400 ..	48017	Bailey .....	TX
383 ..	19039	Clarke .....	IA	400 ..	48069	Castro .....	TX
383 ..	19053	Decatur .....	IA	400 ..	48369	Parmer .....	TX
383 ..	19117	Lucas .....	IA	401 ..	48045	Briscoe .....	TX
383 ..	19159	Ringgold .....	IA	401 ..	48107	Crosby .....	TX
383 ..	19175	Union .....	IA	401 ..	48125	Dickens .....	TX
383 ..	19185	Wayne .....	IA	401 ..	48153	Floyd .....	TX
384 ..	19005	Allamakee .....	IA	401 ..	48169	Garza .....	TX
384 ..	19043	Clayton .....	IA	401 ..	48263	Kent .....	TX
384 ..	19055	Delaware .....	IA	401 ..	48345	Motley .....	TX
385 ..	29111	Lewis .....	MO	402 ..	48095	Concho .....	TX
385 ..	29127	Marietta .....	MO	402 ..	48267	Kimble .....	TX
385 ..	29173	Ralls .....	MO	402 ..	48319	Mason .....	TX
386 ..	45005	Allendale .....	SC	402 ..	48307	McCulloch .....	TX
386 ..	45009	Bamberg .....	SC	402 ..	48327	Menard .....	TX
386 ..	45011	Barnwell .....	SC	403 ..	30027	Fergus .....	MT
387 ..	38003	Barnes .....	ND	403 ..	30045	Judith Basin .....	MT
387 ..	38021	Dickey .....	ND	403 ..	30059	Meagher .....	MT
387 ..	38039	Griggs .....	ND	403 ..	30071	Phillips .....	MT
387 ..	38045	LaMoure .....	ND	403 ..	30107	Wheatland .....	MT
387 ..	38073	Ransom .....	ND	404 ..	49025	Kane .....	UT
387 ..	38077	Richland .....	ND	404 ..	49037	San Juan .....	UT
387 ..	38081	Sargent .....	ND	405 ..	56039	Teton .....	WY
388 ..	19009	Audubon .....	IA	406 ..	19105	Jones .....	IA
388 ..	19029	Cass .....	IA	407 ..	16023	Butte .....	ID
388 ..	19085	Harrison .....	IA	407 ..	16037	Custer .....	ID
388 ..	19165	Shelby .....	IA	407 ..	16059	Lemhi .....	ID
389 ..	31061	Franklin .....	NE	408 ..	48081	Coke .....	TX
389 ..	31063	Frontier .....	NE	408 ..	48399	Runnels .....	TX
389 ..	31065	Furnas .....	NE	408 ..	48431	Sterling .....	TX
389 ..	31073	Gosper .....	NE	409 ..	48207	Haskell .....	TX
389 ..	31083	Harlan .....	NE	409 ..	48269	King .....	TX
389 ..	31085	Hayes .....	NE	409 ..	48275	Knox .....	TX
389 ..	31087	Hitchcock .....	NE	409 ..	48417	Shackelford .....	TX
389 ..	31099	Kearney .....	NE	409 ..	48433	Stonewall .....	TX
389 ..	31137	Phelps .....	NE	410 ..	31031	Cherry .....	NE
389 ..	31145	Red Willow .....	NE	410 ..	31075	Grant .....	NE
390 ..	48151	Fisher .....	TX	410 ..	31161	Sheridan .....	NE
390 ..	48335	Mitchell .....	TX	411 ..	48109	Culberson .....	TX
390 ..	48353	Nolan .....	TX	411 ..	48229	Hudson .....	TX
390 ..	48415	Scurry .....	TX	412 ..	72001	Adjuntas .....	PR
391 ..	41025	Harney .....	OR	412 ..	72003	Aguada .....	PR
391 ..	41045	Malheur .....	OR	412 ..	72005	Aguadilla .....	PR
392 ..	29075	Gentry .....	MO	412 ..	72007	Aguas Buenas .....	PR
392 ..	29087	Holt .....	MO	412 ..	72009	Albonito .....	PR
392 ..	29147	Nodaway .....	MO	412 ..	72011	Anasco .....	PR
392 ..	29227	Worth .....	MO	412 ..	72013	Arecibo .....	PR
393 ..	29041	Chariton .....	MO	412 ..	72015	Arroyo .....	PR
393 ..	29115	Linn .....	MO	412 ..	72017	Barceloneta .....	PR
393 ..	29121	Macon .....	MO	412 ..	72019	Barranquitas .....	PR
394 ..	46007	Bennett .....	SD	412 ..	72021	Bayamon .....	PR
394 ..	46055	Haakon .....	SD	412 ..	72023	Cabo Rojo .....	PR
394 ..	46071	Jackson .....	SD	412 ..	72025	Caaguas .....	PR
394 ..	46075	Jones .....	SD	412 ..	72027	Camuy .....	PR
394 ..	46095	Mellette .....	SD	412 ..	72029	Canovanas .....	PR
394 ..	46113	Shannon .....	SD	412 ..	72031	Carolina .....	PR
394 ..	46121	Todd .....	SD	412 ..	72033	Catano .....	PR
395 ..	38031	Foster .....	ND	412 ..	72035	Cayey .....	PR
395 ..	38069	Pierce .....	ND	412 ..	72037	Ceiba .....	PR
395 ..	38083	Sheridan .....	ND	412 ..	72039	Ciales .....	PR
395 ..	38093	Stutsman .....	ND	412 ..	72041	Cidra .....	PR
395 ..	38103	Wells .....	ND	412 ..	72043	Coamo .....	PR
396 ..	19001	Adair .....	IA	412 ..	72045	Comerio .....	PR
396 ..	19077	Guthrie .....	IA	412 ..	72047	Corozal .....	PR
396 ..	19121	Madison .....	IA	412 ..	72049	Culebra .....	PR

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412 ..	72051	Dorado .....	PR
412 ..	72053	Fajardo .....	PR
412 ..	72054	Florida .....	PR
412 ..	72055	Guanica .....	PR
412 ..	72057	Guayama .....	PR
412 ..	72059	Guayanilla .....	PR
412 ..	72061	Guaynabo .....	PR
412 ..	72063	Gurabo .....	PR
412 ..	72065	Hatillo .....	PR
412 ..	72067	Hormigueros .....	PR
412 ..	72069	Humacao .....	PR
412 ..	72071	Isabela .....	PR
412 ..	72073	Jayuya .....	PR
412 ..	72075	Juana Diaz .....	PR
412 ..	72077	Juncos .....	PR
412 ..	72079	Lajas .....	PR
412 ..	72081	Lares .....	PR
412 ..	72083	Las Marias .....	PR
412 ..	72085	Las Piedras .....	PR
412 ..	72087	Loiza .....	PR
412 ..	72089	Luquillo .....	PR
412 ..	72091	Manati .....	PR
412 ..	72093	Maricao .....	PR
412 ..	72095	Maunabo .....	PR
412 ..	72097	Mayaguez .....	PR
412 ..	72099	Moca .....	PR
412 ..	72101	Morovis .....	PR
412 ..	72103	Naguabo .....	PR
412 ..	72105	Naranjito .....	PR
412 ..	72107	Orocovis .....	PR
412 ..	72109	Patillas .....	PR
412 ..	72111	Penuelas .....	PR
412 ..	72113	Ponce .....	PR
412 ..	72115	Queradillas .....	PR
412 ..	72117	Rincon .....	PR
412 ..	72119	Rio Grande .....	PR
412 ..	72121	Sabana Grande .....	PR
412 ..	72123	Salinas .....	PR
412 ..	72125	San German .....	PR
412 ..	72127	San Juan .....	PR
412 ..	72129	San Lorenzo .....	PR
412 ..	72131	San Sebastian .....	PR
412 ..	72133	Santa Isabel .....	PR
412 ..	72135	Toa Alta .....	PR
412 ..	72137	Toa Baja .....	PR
412 ..	72139	Trujillo Alto .....	PR
412 ..	72141	Utuado .....	PR
412 ..	72143	Vega Alta .....	PR
412 ..	72145	Vega Baja .....	PR
412 ..	72147	Vieques .....	PR
412 ..	72149	Villalba .....	PR
412 ..	72151	Yabucoa .....	PR
412 ..	72153	Yauco .....	PR
413 ..	66010	Guam .....	GU
413 ..	69085	Northern Islands .....	MP
413 ..	69100	Rota .....	MP
413 ..	69110	Saipan .....	MP
413 ..	69120	Tinian .....	MP
414 ..	78010	St. Croix .....	VI
414 ..	78020	St. John .....	VI
414 ..	78030	St. Thomas .....	VI
415 ..	60010	Eastern District .....	AS
415 ..	60020	Manu'a District .....	AS
415 ..	60030	Rose Island .....	AS
415 ..	60040	Swains Island .....	AS
415 ..	60050	Western District .....	AS
416 ..	99023	Gulf of Mexico Central and East .....	GM
416 ..	99001	Gulf of Mexico West .....	GM

[85 FR 22865, Apr. 23, 2020]

### Subpart B—Applications and Licenses

#### § 27.10 Regulatory status.

The following rules apply concerning the regulatory status in the frequency bands specified in § 27.5.

(a) *Single authorization.* Authorization will be granted to provide any or a combination of the following services in a single license: common carrier, non-common carrier, private internal communications, and broadcast services. A licensee may render any kind of communications service consistent with the regulatory status in its license and with the Commission's rules applicable to that service. An applicant or licensee may submit a petition at any time requesting clarification of the regulatory status for which authorization is required to provide a specific communications service.

(b) *Designation of regulatory status in initial application.* An applicant shall specify in its initial application if it is requesting authorization to provide common carrier, non-common carrier, private internal communications, or broadcast services, or a combination thereof.

(c) *Amendment of pending applications.* The following rules apply to amendments of a pending application.

(1) Any pending application may be amended to:

(i) Change the carrier regulatory status requested, or

(ii) Add to the pending request in order to obtain common carrier, non-common carrier, private internal communications, or broadcast services status, or a combination thereof, in a single license.

(2) Amendments to change, or add to, the carrier regulatory status in a pending application are minor amendments filed under § 1.927 of this chapter.

(d) *Modification of license.* The following rules apply to amendments of a license.

(1) A licensee may modify a license to:

(i) Change the regulatory status authorized, or

(ii) Add to the status authorized in order to obtain a combination of services of different regulatory status in a single license.

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(2) Applications to change, or add to, the carrier status in a license are modifications not requiring prior Commission authorization. The licensee must notify the Commission within 30 days of the change. If the change results in the discontinuance, reduction, or impairment of an existing service, the licensee is subject to the provisions of § 27.66.

[65 FR 3146, Jan. 20, 2000, as amended at 65 FR 17602, Apr. 4, 2000; 67 FR 5510, Feb. 6, 2002; 67 FR 41854, June 20, 2002; 68 FR 66286, Nov. 25, 2003; 72 FR 27709, May 16, 2007]

### § 27.11 Initial authorization.

(a) An applicant must file a single application for an initial authorization for all markets won and frequency blocks desired. Initial authorizations shall be granted in accordance with § 27.5. Applications for individual sites are not required and will not be accepted, except where required for environmental assessments, in accordance with §§ 1.1301 through 1.1319 of this chapter.

(b) *2305–2320 MHz and 2345–2360 MHz bands.* Initial authorizations for the 2305–2320 MHz and 2345–2360 MHz bands shall be for 10 megahertz of spectrum in accordance with § 27.5(a).

(1) Authorizations for Blocks A and B will be based on Major Economic Areas (MEAs), as specified in § 27.6(a)(1).

(2) Authorizations for Blocks C and D will be based on Regional Economic Area Groupings (REAGs), as specified in § 27.6(a)(2).

(c) *746–758 MHz, 775–788 MHz, and 805–806 MHz bands.* Initial authorizations for the 746–758 MHz, 775–788 MHz, and 805–806 MHz bands shall be for paired channels of 1, 5, 6, or 11 megahertz of spectrum in accordance with § 27.5(b).

(1) Authorizations for Block A, consisting of two paired channels of 1 megahertz each, will be based on those geographic areas specified in § 27.6(b)(1).

(2) Authorizations for Block B, consisting of two paired channels of 1 megahertz each, will be based on those geographic areas specified in § 27.6(b)(1).

(3) Authorizations for Block C, consisting of two paired channels of 11 megahertz each, will be based on those geographic areas specified in

§ 27.6(b)(2). In the event that no licenses granting authorizations for Block C, consisting of two paired channels of 11 megahertz each, are assigned based on the results of the first auction in which such licenses are offered because the auction results do not satisfy the applicable reserve price, then the authorizations for the spectrum in the 746–757 MHz and 776–787 MHz bands will instead be as follows:

(i) Authorizations for Block C1, consisting of two paired channels of 6 megahertz each in the 746–752 MHz and 776–782 MHz bands, will be based on those geographic areas specified in § 27.6(b)(2)(i).

(ii) Authorizations for Block C2, consisting of two paired channels of 5 megahertz each in the 752–757 MHz and 782–787 MHz bands, will be based on those geographic areas specified in § 27.6(b)(2)(ii).

(d) *698–746 MHz band.* Initial authorizations for the 698–746 MHz band shall be for 6 or 12 megahertz of spectrum in accordance with § 27.5(c).

(1) Authorizations for Block A, consisting of two paired channels of 6 megahertz each, will be based on those geographic areas specified in § 27.6(c)(1).

(2) Authorizations for Block B, consisting of two paired channels of 6 megahertz each, will be based on those geographic areas specified in § 27.6(c)(2).

(3) Authorizations for Block C, consisting of two paired channels of 6 megahertz each, will be based on those geographic areas specified in § 27.6(c)(2).

(4) Authorizations for Block D, consisting of an unpaired channel block of 6 megahertz, will be based on those geographic areas specified in § 27.6(c)(3).

(5) Authorizations for Block E, consisting of an unpaired channel block of 6 megahertz, will be based on those geographic areas specified in § 27.6(c)(1).

(e) *1390–1392 MHz band.* Initial authorizations for the 1390–1392 MHz band shall be for 2 megahertz of spectrum in accordance with § 27.5(d). Authorizations will be based on Major Economic Areas (MEAs), as specified in § 27.6(d).

(f) *The paired 1392–1395 MHz and 1432–1435 MHz bands.* Initial authorizations for the paired 1392–1395 MHz and 1432–1435 MHz bands shall be for 3 megahertz of paired spectrum in accordance with § 27.5(e). Authorization for Blocks A

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and B will be based on Economic Areas Groupings (EAGs), as specified in § 27.6(e).

(g) *1670–1675 MHz band.* Initial authorizations for the 1670–1675 MHz band shall be for 5 megahertz of spectrum in accordance with § 27.5(f). Authorizations will be on a nationwide basis.

(h) [Reserved]

(i) *1710–1755 MHz and 2110–2155 MHz bands.* Initial authorizations for the 1710–1755 MHz and 2110–2155 MHz bands shall be for 5 or 10 megahertz of spectrum in each band in accordance with § 27.5(h) of this part.

(1) Authorizations for Block A, consisting of two paired channels of 10 megahertz each, will be based on those geographic areas specified in § 27.6(h)(1).

(2) Authorizations for Block B, consisting of two paired channels of 10 megahertz each, will be based on those geographic areas specified in § 27.6(h)(2).

(3) Authorizations for Block C, consisting of two paired channels of 5 megahertz each, will be based on those geographic areas specified in § 27.6(h)(2).

(4) Authorizations for Blocks D, consisting of two paired channels of 5 megahertz each, will be based on those geographic areas specified in § 27.6(h)(3).

(5) Authorizations for Blocks E, consisting of two paired channels of 5 megahertz each, will be based on those geographic areas specified in § 27.6(h)(3).

(6) Authorizations for Block F, consisting of two paired channels of 10 megahertz each, will be based on those geographic areas specified in § 27.6(h)(3).

(j) *1695–1710 MHz, 1755–1780 MHz and 2155–2180 MHz bands.* (1) Initial authorizations for the 1695–1710 MHz band shall be based on the frequency blocks specified in § 27.5(h)(3) and the corresponding service area specified in § 27.6(k)(2).

(2) Initial authorizations for the 1755–1780 MHz and 2155–2180 MHz shall be based on the paired frequency blocks specified in § 27.5(h)(1) and (2) and the corresponding service areas specified in § 27.6(k)(1) and (2).

(k) *600 MHz band.* Initial authorizations for the 600 MHz band will be based on Partial Economic Areas (PEAs), as specified in § 27.6(1), and, shall be paired channels that each consist of a 5 megahertz channel block in the 600 MHz downlink band (617–652 MHz), paired with a 5 megahertz channel block in the 600 MHz uplink band (663–698 MHz), based on the frequency blocks specified in § 27.5(l).

(l) *3700–3980 MHz band.* Authorizations for licenses in the 3.7 GHz Service will be based on Partial Economic Areas (PEAs), as specified in § 27.6(m), and the frequency sub-blocks specified in § 27.5(m).

(m) *3450–3550 MHz band.* Authorizations for licenses in the 3.45 GHz Service will be based on Partial Economic Areas (PEAs), as specified in § 27.6(n), and the frequency blocks specified in § 27.5(o).

[62 FR 9658, Mar. 3, 1997, as amended at 63 FR 68954, Dec. 14, 1998; 65 FR 3146, Jan. 20, 2000; 67 FR 5511, Feb. 6, 2002; 67 FR 41854, June 20, 2002; 69 FR 5715, Feb. 6, 2004; 69 FR 39867, July 1, 2004; 69 FR 77950, Dec. 29, 2004; 70 FR 58065, Oct. 5, 2005; 72 FR 48845, Aug. 24, 2007; 79 FR 597, Jan. 6, 2014; 79 FR 32410, June 4, 2014; 79 FR 48536, Aug. 15, 2014; 82 FR 47160, Oct. 11, 2017; 85 FR 22881, Apr. 23, 2020; 86 FR 17952, Apr. 7, 2021]

### § 27.12 Eligibility.

(a) Except as provided in paragraph (b) of this section and in §§ 27.604, 27.1201, 27.1202, and 27.1503, any entity other than those precluded by section 310 of the Communications Act of 1934, as amended, 47 U.S.C. 310, is eligible to hold a license under this part.

(b) A person described in 47 U.S.C. 1404(c) is ineligible to hold a license that is required by 47 U.S.C. Chapter 13 (Middle Class Tax Relief and Job Creation Act of 2012 (Pub. L. 112–96, 125 Stat. 156 (2012)) to be assigned by a system of competitive bidding under § 309(j) of the Communications Act, 47 U.S.C. 309(j).

[78 FR 50254, Aug. 16, 2013, as amended at 85 FR 43134, July 16, 2020]

### § 27.13 License period.

(a) *2305–2320 MHz and 2345–2360 MHz bands.* Initial WCS authorizations for the 2305–2320 MHz and 2345–2360 MHz bands will have a term not to exceed

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ten years from the date of original issuance or renewal.

(b) *698–763 MHz, 776–793, 775–776, and 805–806 MHz bands.* Initial authorizations for the 698–758 MHz and 776–788 MHz bands will extend for a term not to exceed ten years from June 13, 2009, except that initial authorizations for a part 27 licensee that provides broadcast services, whether exclusively or in combination with other services, will not exceed eight years. Initial authorizations for the 775–776 MHz and 805–806 MHz bands shall not exceed April 27, 2015. Licensees that initiate the provision of a broadcast service, whether exclusively or in combination with other services, may not provide this service for more than eight years or beyond the end of the license term if no broadcast service had been provided, whichever period is shorter in length.

(c) *1390–1392 MHz band.* Initial authorizations for the 1390–1392 MHz band will have a term not to exceed ten years from the date of initial issuance or renewal.

(d) *The paired 1392–1395 and 1432–1435 MHz bands.* Initial WCS authorizations for the paired 1392–1395 MHz and 1432–1435 MHz bands will have a term not to exceed ten years from the date of initial issuance or renewal.

(e) *1670–1675 MHz band.* Initial authorizations for the 1670–1675 MHz band will have a term not to exceed ten years from the date of initial issuance or renewal.

(f) [Reserved]

(g) *1710–1755 MHz and 2110–2155 MHz bands.* Authorizations for the 1710–1755 MHz and 2110–2155 MHz bands will have a term not to exceed ten years from the date of initial issuance or renewal, except that authorizations issued on or before December 31, 2009, shall have a term of fifteen years.

(h) *BRS and EBS.* BRS and EBS authorizations shall have a term not to exceed ten years from the date of original issuance or renewal. Unless otherwise specified by the Commission, incumbent BRS authorizations shall expire on May 1 in the year of expiration.

(i) *2000–2020 MHz and 2180–2200 MHz bands.* Authorizations for the 2000–2020 MHz and 2180–2200 MHz bands will have a term not to exceed ten years from the date of issuance or renewal.

(j) *1915–1920 MHz and 1995–2000 MHz bands.* Authorizations for 1915–1920 MHz and 1995–2000 MHz bands will have a term not to exceed ten years from the date of issuance or renewal.

(k) *1695–1710 MHz, 1755–1780 MHz, and 2155–2180 MHz bands.* Authorizations for the 1695–1710 MHz, 1755–1780 MHz, and 2155–2180 MHz bands will have a term not to exceed twelve (12) years from the date of issuance and ten (10) years from the date of any subsequent license renewal.

(l) *600 MHz band.* Authorizations for the 600 MHz band will have an initial term not to exceed twelve years from the date of issuance and ten years from the date of any subsequent license renewal.

(m) *3700–3980 MHz band.* Authorizations for licenses in the 3.7 GHz Service in the 3700–3980 MHz band will have a term not to exceed 15 years from the date of issuance or renewal.

(n) *900 MHz broadband.* Authorizations for broadband licenses in the 897.5–900.5 MHz and 936.5–939.5 MHz bands will have a term not to exceed 15 years from the date of initial issuance and ten (10) years from the date of any subsequent renewal.

(o) *3450–3550 MHz Band.* Authorizations for licenses in the 3.45 GHz Service in the 3450–3550 MHz band will have a term not to exceed fifteen (15) years from the date of issuance.

[65 FR 3146, Jan. 20, 2000]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 27.13, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at [www.govinfo.gov](http://www.govinfo.gov).

## § 27.14 Construction requirements.

(a) AWS and WCS licensees, with the exception of WCS licensees holding authorizations for the 600 MHz band, Block A in the 698–704 MHz and 728–734 MHz bands, Block B in the 704–710 MHz and 734–740 MHz bands, Block E in the 722–728 MHz band, Block C, C1, or C2 in the 746–757 MHz and 776–787 MHz bands, Block A in the 2305–2310 MHz and 2350–2355 MHz bands, Block B in the 2310–2315 MHz and 2355–2360 MHz bands, Block C in the 2315–2320 MHz band, Block D in the 2345–2350 MHz band, in the 3450–3550 MHz band, and in the 3700–3980 MHz band, and with the exception

of licensees holding AWS authorizations in the 1915–1920 MHz and 1995–2000 MHz bands, the 2000–2020 MHz and 2180–2200 MHz bands, or 1695–1710 MHz, 1755–1780 MHz and 2155–2180 MHz bands, must, as a performance requirement, make a showing of “substantial service” in their license area within the prescribed license term set forth in § 27.13. “Substantial service” is defined as service which is sound, favorable and substantially above a level of mediocre service which just might minimally warrant renewal. Failure by any licensee to meet this requirement will result in forfeiture of the license and the licensee will be ineligible to regain it.

(b)–(f) [Reserved]

(g) WCS licensees holding EA authorizations for Block A in the 698–704 MHz and 728–734 MHz bands, cellular market authorizations for Block B in the 704–710 MHz and 734–740 MHz bands, or EA authorizations for Block E in the 722–728 MHz band, if the results of the first auction in which licenses for such authorizations are offered satisfy the reserve price for the applicable block, shall provide signal coverage and offer service over at least 35 percent of the geographic area of each of their license authorizations no later than June 13, 2013 (or within four years of initial license grant if the initial authorization in a market is granted after June 13, 2009), and shall provide such service over at least 70 percent of the geographic area of each of these authorizations by the end of the license term. In applying these geographic benchmarks, licensees are not required to include land owned or administered by government as a part of the relevant service area. Licensees may count covered government land for purposes of meeting their geographic construction benchmark, but are required to add the covered government land to the total geographic area used for measurement purposes. Licensees are required to include those populated lands held by tribal governments and those held by the Federal Government in trust or for the benefit of a recognized tribe.

(1) If an EA or CMA licensee holding an authorization in these particular blocks fails to provide signal coverage and offer service over at least 35 per-

cent of the geographic area of its license authorization by no later than June 13, 2013 (or within four years of initial license grant, if the initial authorization in a market is granted after June 13, 2009), the term of that license authorization will be reduced by two years and such licensee may be subject to enforcement action, including forfeitures. In addition, an EA or CMA licensee that provides signal coverage and offers service at a level that is below this interim benchmark may lose authority to operate in part of the remaining unserved areas of the license.

(2) If any such EA or CMA licensee fails to provide signal coverage and offer service to at least 70 percent of the geographic area of its license authorization by the end of the license term, that licensee's authorization will terminate automatically without Commission action for those geographic portions of its license in which the licensee is not providing service, and those unserved areas will become available for reassignment by the Commission. Such licensee may also be subject to enforcement action, including forfeitures. In addition, an EA or CMA licensee that provides signal coverage and offers service at a level that is below this end-of-term benchmark may be subject to license termination. In the event that a licensee's authority to operate in a license area terminates automatically without Commission action, such areas will become available for reassignment pursuant to the procedures in paragraph (j) of this section.

(3) For licenses under paragraph (g) of this section, the geographic service area to be made available for reassignment must include a contiguous area of at least 130 square kilometers (50 square miles), and areas smaller than a contiguous area of at least 130 square kilometers (50 square miles) will not be deemed unserved.

(h) WCS licensees holding REAG authorizations for Block C in the 746–757 MHz and 776–787 MHz bands or REAG authorizations for Block C2 in the 752–757 MHz and 782–787 MHz bands shall provide signal coverage and offer service over at least 40 percent of the population in each EA comprising the REAG license area no later than June

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13, 2013 (or within four years of initial license grant, if the initial authorization in a market is granted after June 13, 2009), and shall provide such service over at least 75 percent of the population of each of these EAs by the end of the license term. For purposes of compliance with this requirement, licensees should determine population based on the most recently available U.S. Census Data.

(1) If a licensee holding a Block C authorization fails to provide signal coverage and offer service over at least 40 percent of the population in each EA comprising the REAG license area by no later than June 13, 2013 (or within four years of initial license grant if the initial authorization in a market is granted after June 13, 2009), the term of the license authorization will be reduced by two years and such licensee may be subject to enforcement action, including forfeitures. In addition, a licensee that provides signal coverage and offers service at a level that is below this interim benchmark may lose authority to operate in part of the remaining unserved areas of the license.

(2) If a licensee holding a Block C authorization fails to provide signal coverage and offer service over at least 75 percent of the population in any EA comprising the REAG license area by the end of the license term, for each such EA that licensee's authorization will terminate automatically without Commission action for those geographic portions of its license in which the licensee is not providing service. Such licensee may also be subject to enforcement action, including forfeitures. In the event that a licensee's authority to operate in a license area terminates automatically without Commission action, such areas will become available for reassignment pursuant to the procedures in paragraph (j) of this section. In addition, a REAG licensee that provides signal coverage and offers service at a level that is below this end-of-term benchmark within any EA may be subject to license termination within that EA.

(3) For licenses under paragraph (h), the geographic service area to be made available for reassignment must include a contiguous area of at least 130

square kilometers (50 square miles), and areas smaller than a contiguous area of at least 130 square kilometers (50 square miles) will not be deemed unserved.

(i) WCS licensees holding EA authorizations for Block A in the 698–704 MHz and 728–734 MHz bands, cellular market authorizations for Block B in the 704–710 MHz and 734–740 MHz bands, or EA authorizations for Block E in the 722–728 MHz band, if the results of the first auction in which licenses for such authorizations in Blocks A, B, and E are offered do not satisfy the reserve price for the applicable block, as well as EA authorizations for Block C1 in the 746–752 MHz and 776–782 MHz bands, are subject to the following:

(1) If a licensee holding a cellular market area or EA authorization subject to this paragraph (i) fails to provide signal coverage and offer service over at least 40 percent of the population in its license area by no later than June 13, 2013 (or within four years of initial license grant, if the initial authorization in a market is granted after June 13, 2009), the term of that license authorization will be reduced by two years and such licensee may be subject to enforcement action, including forfeitures. In addition, such licensee that provides signal coverage and offers service at a level that is below this interim benchmark may lose authority to operate in part of the remaining unserved areas of the license. For purposes of compliance with this requirement, licensees should determine population based on the most recently available U.S. Census Data.

(2) If a licensee holding a cellular market area or EA authorization subject to this paragraph (i) fails to provide signal coverage and offer service over at least 75 percent of the population in its license area by the end of the license term, that licensee's authorization will terminate automatically without Commission action for those geographic portions of its license in which the licensee is not providing service, and those unserved areas will become available for reassignment by the Commission. Such licensee may also be subject to enforcement action, including forfeitures. In the event that a licensee's authority to operate in a

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license area terminates automatically without Commission action, such areas will become available for reassignment pursuant to the procedures in paragraph (j) of this section. In addition, such a licensee that provides signal coverage and offers service at a level that is below this end-of-term benchmark may be subject to license termination. For purposes of compliance with this requirement, licensees should determine population based on the most recently available U.S. Census Data.

(3) For licenses under paragraph (i), the geographic service area to be made available for reassignment must include a contiguous area of at least 130 square kilometers (50 square miles), and areas smaller than a contiguous area of at least 130 square kilometers (50 square miles) will not be deemed unserved.

(j) In the event that a licensee's authority to operate in a license area terminates automatically under paragraphs (g), (h), or (i) of this section, such areas will become available for reassignment pursuant to the following procedures:

(1) The Wireless Telecommunications Bureau is delegated authority to announce by public notice that these license areas will be made available and establish a 30-day window during which third parties may file license applications to serve these areas. During this 30-day period, licensees that had their authority to operate terminate automatically for unserved areas may not file applications to provide service to these areas. Applications filed by third parties that propose areas overlapping with other applications will be deemed mutually exclusive, and will be resolved through an auction. The Wireless Telecommunications Bureau, by public notice, may specify a limited period before the filing of short-form applications (FCC Form 175) during which applicants may enter into a settlement to resolve their mutual exclusivity, subject to the provisions of § 1.935 of this chapter.

(2) Following this 30-day period, the original licensee and third parties can file license applications for remaining unserved areas where licenses have not been issued or for which there are no

pending applications. If the original licensee or a third party files an application, that application will be placed on public notice for 30 days. If no mutually exclusive application is filed, the application will be granted, provided that a grant is found to be in the public interest. If a mutually exclusive application is filed, it will be resolved through an auction. The Wireless Telecommunications Bureau, by public notice, may specify a limited period before the filing of short-form applications (FCC Form 175) during which applicants may enter into a settlement to resolve their mutual exclusivity, subject to the provisions of § 1.935 of this chapter.

(3) The licensee will have one year from the date the new license is issued to complete its construction and provide signal coverage and offer service over 100 percent of the geographic area of the new license area. If the licensee fails to meet this construction requirement, its license will automatically terminate without Commission action and it will not be eligible to apply to provide service to this area at any future date.

(k) Licensees holding WCS or AWS authorizations in the spectrum blocks enumerated in paragraphs (g), (h), (i), (q), (r), (s), (t), (v), and (w) of this section, including any licensee that obtained its license pursuant to the procedures set forth in paragraph (j) of this section, shall demonstrate compliance with performance requirements by filing a construction notification with the Commission, within 15 days of the expiration of the applicable benchmark, in accordance with the provisions set forth in § 1.946(d) of this chapter. The licensee must certify whether it has met the applicable performance requirements. The licensee must file a description and certification of the areas for which it is providing service. The construction notifications must include electronic coverage maps, supporting technical documentation and any other information as the Wireless Telecommunications Bureau may prescribe by public notice.

(l) WCS licensees holding authorizations in the spectrum blocks enumerated in paragraphs (g), (h), or (i) of this

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section, excluding any licensee that obtained its license pursuant to the procedures set forth in subsection (j) of this section, shall file reports with the Commission that provide the Commission, at a minimum, with information concerning the status of their efforts to meet the performance requirements applicable to their authorizations in such spectrum blocks and the manner in which that spectrum is being utilized. The information to be reported will include the date the license term commenced, a description of the steps the licensee has taken toward meeting its construction obligations in a timely manner, including the technology or technologies and service(s) being provided, and the areas within the license area in which those services are available. Each of these licensees shall file its first report with the Commission no later than June 13, 2011 and no sooner than 30 days prior to this date. Each licensee that meets its interim benchmarks shall file a second report with the Commission no later than June 13, 2016 and no sooner than 30 days prior to this date. Each licensee that does not meet its interim benchmark shall file this second report no later than on June 13, 2015 and no sooner than 30 days prior to this date.

(m)–(n) [Reserved]

(o) With respect to initial BRS licenses issued on or after November 6, 2009, the licensee must make a showing of substantial service within four years from the date of issue of the license. With respect to EBS licenses issued after October 25, 2019, the licensee must comply with paragraph (u) of this section. "Substantial service" is defined as service which is sound, favorable, and substantially above a level of mediocre service which just might minimally warrant renewal. Substantial service for BRS and EBS licensees is satisfied if a licensee meets the requirements of paragraph (o)(1), (2), or (3) of this section. If a licensee has not met the requirements of paragraph (o)(1), (2), or (3) of this section, then demonstration of substantial service shall proceed on a case-by-case basis. Except as provided in paragraphs (o)(4) and (5) of this section, all substantial service determinations will be made on a license-by-license basis. Failure by

any licensee to demonstrate substantial service will result in forfeiture of the license and the licensee will be ineligible to regain it.

(1) A BRS or EBS licensee has provided "substantial service" by:

(i) Constructing six permanent links per one million people for licensees providing fixed point-to-point services;

(ii) Providing coverage of at least 30 percent of the population of the licensed area for licensees providing mobile services or fixed point-to-multipoint services;

(iii) Providing service to "rural areas" (a county (or equivalent) with a population density of 100 persons per square mile or less, based upon the most recently available Census data) and areas with limited access to telecommunications services:

(A) For mobile service, where coverage is provided to at least 75% of the geographic area of at least 30% of the rural areas within its service area; or

(B) for fixed service, where the BRS or EBS licensee has constructed at least one end of a permanent link in at least 30% of the rural areas within its licensed area.

(iv) Providing specialized or technologically sophisticated service that does not require a high level of coverage to benefit consumers; or

(v) Providing service to niche markets or areas outside the areas served by other licensees.

(2) An EBS license initially issued prior to October 25, 2019 has provided "substantial service" when:

(i) The EBS licensee is using its spectrum (or spectrum to which the EBS licensee's educational services are shifted) to provide educational services within the EBS licensee's GSA;

(ii) the EBS licensee's license is actually being used to serve the educational mission of one or more accredited public or private schools, colleges or universities providing formal educational and cultural development to enrolled students; or

(iii) The level of service provided by the EBS licensee meets or exceeds the minimum usage requirements specified in § 27.1214 contained in the edition of 47 CFR parts 20 through 39, revised as of October 1, 2017.

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(3) An EBS or BRS licensee may be deemed to provide substantial service through a leasing arrangement if the lessee is providing substantial service under paragraph (o)(1) of this section.

(4) If the GSA of a licensee is less than 1924 square miles in size, and there is an overlapping co-channel station licensed or leased by the licensee or its affiliate, substantial service may be demonstrated by meeting the requirements of paragraph (o)(1) or (o)(2) of this section with respect to the combined GSAs of both stations.

(5) If the GSA of a BTA authorization holder, is less than one-half of the area within the BTA for every BRS channel, substantial service may be demonstrated for the licenses in question by meeting the requirements of paragraph (o)(1) or (o)(2) of this section with respect to the combined GSAs of the BTA authorization holder, together with any incumbent authorizations licensed or leased by the licensee or its affiliates.

(p) This section enumerates performance requirements for licensees holding authorizations for Block A in the 2305–2310 MHz and 2350–2355 MHz bands, Block B in the 2310–2315 MHz and 2355–2360 MHz bands, Block C in the 2315–2320 MHz band, and Block D in the 2345–2350 MHz band.

(1) For mobile and point-to-multipoint systems in Blocks A and B, and point-to-multipoint systems in Blocks C and D, a licensee must provide reliable signal coverage and offer service to at least 40 percent of the license area's population by March 13, 2017, and to at least 75 percent of the license area's population by September 13, 2019. If, when filing the construction notification required under §1.946(d) of this chapter, a WCS licensee demonstrates that 25 percent or more of the license area's population for Block A, B or D is within a coordination zone as defined by §27.73(a) of the rules, the foregoing population benchmarks are reduced to 25 and 50 percent, respectively. The percentage of a license area's population within a coordination zone equals the sum of the Census Block Centroid Populations within the area, divided by the license area's total population.

(2) For point-to-point fixed systems, except those deployed in the Gulf of Mexico license area, a licensee must construct and operate a minimum of 15 point-to-point links per million persons (one link per 67,000 persons) in a license area by March 13, 2017, and 30 point-to-point links per million persons (one link per 33,500 persons) in a licensed area by September 13, 2019. The exact link requirement is calculated by dividing a license area's total population by 67,000 and 33,500 for the respective milestones, and then rounding upwards to the next whole number. For a link to be counted towards these benchmarks, both of its endpoints must be located in the license area. If only one endpoint of a link is located in a license area, it can be counted as a one-half link towards the benchmarks.

(3) For point-to-point fixed systems deployed on any spectrum block in the Gulf of Mexico license area, a licensee must construct and operate a minimum of 15 point-to-point links by March 13, 2017, and a minimum of 15 point-to-point links by September 13, 2019.

(4) Under paragraph (p)(2) and (p)(3) of this section, each fixed link must provide a minimum bit rate, in bits per second, equal to or greater than the bandwidth specified by the emission designator in Hertz (e.g., equipment transmitting at a 5 Mb/s rate must not require a bandwidth of greater than 5 MHz).

(5) If an initial authorization for a license area is granted after March 13, 2013, then the applicable benchmarks in paragraphs (p)(1), (2) and (3) of this section must be met within 48 and 78 months, respectively, of the initial authorization grant date.

(6) Licensees must use the most recently available U.S. Census Data at the time of measurement to meet these performance requirements.

(7) Licensees must certify compliance with the applicable performance requirements by filing a construction notification with the Commission, within 15 days of the expiration of the relevant performance milestone, pursuant to §1.946(d) of this chapter. Each construction notification must include electronic coverage maps, supporting

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technical documentation, and any other information as the Wireless Telecommunications Bureau may prescribe by public notice. Electronic coverage maps must accurately depict the boundaries of each license area (Regional Economic Area Grouping, REAG, or Major Economic Area, MEA) in the licensee's service territory. Further, REAG maps must depict MEA boundaries and MEA maps must depict Economic Area boundaries. If a licensee does not provide reliable signal coverage to an entire license area, its map must accurately depict the boundaries of the area or areas within each license area not being served. Each licensee also must file supporting documentation certifying the type of service it is providing for each REAG or MEA within its service territory and the type of technology used to provide such service. Supporting documentation must include the assumptions used to create the coverage maps, including the propagation model and the signal strength necessary to provide reliable service with the licensee's technology.

(8) If a licensee fails to meet any applicable performance requirement, its authorization will terminate automatically without further Commission action as of the applicable performance milestone and the licensee will be ineligible to regain it.

(q) The following provisions apply to any licensee holding an AWS authorization in the 2000–2020 MHz and 2180–2200 MHz bands (an “AWS-4 licensee”):

(1) An AWS-4 licensee shall provide terrestrial signal coverage and offer terrestrial service within four (4) years from the date of the license to at least forty (40) percent of the total population in the aggregate service areas that it has licensed in the 2000–2020 MHz and 2180–2200 MHz bands (“AWS-4 Interim Buildout Requirement”). For purposes of this subpart, a licensee's total population shall be calculated by summing the population of each license area that a licensee holds in the 2000–2020 MHz and 2180–2200 MHz bands; and

(2) An AWS-4 licensee shall provide terrestrial signal coverage and offer terrestrial service within seven (7) years from the date of the license to at

least seventy (70) percent of the population in each of its license areas in the 2000–2020 MHz and 2180–2200 MHz bands (“AWS-4 Final Buildout Requirement”).

(3) If any AWS-4 licensee fails to establish that it meets the AWS-4 Interim Buildout Requirement, the AWS-4 Final Buildout requirement shall be accelerated by one year from (seven to six years).

(4) If any AWS-4 licensee fails to establish that it meets the AWS-4 Final Buildout Requirement in any of its license areas in the 2000–2020 MHz and 2180–2200 MHz bands, its authorization for each license area in which it fails to meet the requirement shall terminate automatically without Commission action. To the extent that the AWS-4 licensee also holds the 2 GHz MSS rights for the affected license area, failure to meet the AWS-4 Final Buildout Requirement in an EA shall also result in the MSS protection rule in § 27.1136 no longer applying in that license area.

(5) To demonstrate compliance with these performance requirements, licensees shall use the most recently available U.S. Census Data at the time of measurement and shall base their measurements of population served on areas no larger than the Census Tract level. The population within a specific Census Tract (or other acceptable identifier) will only be deemed served by the licensee if it provides signal coverage to and offers service within the specific Census Tract (or other acceptable identifier). To the extent the Census Tract (or other acceptable identifier) extends beyond the boundaries of a license area, a licensee with authorizations for such areas may only include the population within the Census Tract (or other acceptable identifier) towards meeting the performance requirement of a single, individual license.

(6) Failure by any AWS-4 licensee to meet the AWS-4 Final Buildout Requirement in paragraph (q)(4) of this section will result in forfeiture of the license and the licensee will be ineligible to regain it.

(r) The following provisions apply to any licensee holding an AWS authorization in the 1915–1920 MHz and 1995–2000 MHz bands:

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(1) A licensee shall provide signal coverage and offer service within four (4) years from the date of the initial license to at least forty (40) percent of the population in each of its licensed areas ("Interim Buildout Requirement").

(2) A licensee shall provide signal coverage and offer service within ten (10) years from the date of the initial license to at least seventy-five (75) percent of the population in each of its licensed areas ("Final Buildout Requirement").

(3) If a licensee fails to establish that it meets the Interim Buildout Requirement for a particular licensed area, then the Final Buildout Requirement (in this paragraph (r)) and the license term (as set forth in § 27.13(j)) for each license area in which it fails to meet the Interim Buildout Requirement shall be accelerated by two years (from ten to eight years).

(4) If a licensee fails to establish that it meets the Final Buildout Requirement for a particular licensed area, its authorization for each license area in which it fails to meet the Final Buildout Requirement shall terminate automatically without Commission action and the licensee will be ineligible to regain it if the Commission makes the license available at a later date.

(5) To demonstrate compliance with these performance requirements, licensees shall use the most recently available U.S. Census Data at the time of measurement and shall base their measurements of population served on areas no larger than the Census Tract level. The population within a specific Census Tract (or other acceptable identifier) will only be deemed served by the licensee if it provides signal coverage to and offers service within the specific Census Tract (or other acceptable identifier). To the extent the Census Tract (or other acceptable identifier) extends beyond the boundaries of a license area, a licensee with authorizations for such areas may only include the population within the Census Tract (or other acceptable identifier) towards meeting the performance requirement of a single, individual license.

(s) The following provisions apply to any licensee holding an AWS author-

ization in the 1695–1710 MHz, 1755–1780 MHz, and 2155–2180 MHz bands:

(1) A licensee shall provide reliable signal coverage and offer service within six (6) years from the date of the initial license to at least forty (40) percent of the population in each of its licensed areas ("Interim Buildout Requirement").

(2) A licensee shall provide reliable signal coverage and offer service within twelve (12) years from the date of the initial license to at least seventy-five (75) percent of the population in each of its licensed areas ("Final Buildout Requirement").

(3) If a licensee fails to establish that it meets the Interim Buildout Requirement for a particular licensed area, then the Final Buildout Requirement (in this paragraph (s)) and the AWS license term (as set forth in § 27.13(k)) for each license area in which it fails to meet the Interim Buildout Requirement shall be accelerated by two (2) years (from twelve (12) to ten (10) years).

(4) If a licensee fails to establish that it meets the Final Buildout Requirement for a particular licensed area, its authorization for each license area in which it fails to meet the Final Buildout Requirement shall terminate automatically without Commission action and the licensee will be ineligible to regain it if the Commission makes the license available at a later date.

(5) To demonstrate compliance with these performance requirements, licensees shall use the most recently available U.S. Census Data at the time of measurement and shall base their measurements of population served on areas no larger than the Census Tract level. The population within a specific Census Tract (or other acceptable identifier) will be deemed served by the licensee only if it provides signal coverage to and offers service within the specific Census Tract (or other acceptable identifier). To the extent the Census Tract (or other acceptable identifier) extends beyond the boundaries of a license area, a licensee with authorizations for such areas may include only the population within the Census Tract (or other acceptable identifier)

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towards meeting the performance requirement of a single, individual license. For the Gulf of Mexico license area, the licensee shall demonstrate compliance with these performance requirements, using off-shore platforms, including production, manifold, compression, pumping and valving platforms as a proxy for population in the Gulf of Mexico.

(t) The following provisions apply to any licensee holding an authorization in the 600 MHz band:

(1) A licensee shall provide reliable signal coverage and offer service within six (6) years from the date of the initial license to at least forty (40) percent of the population in each of its license areas ("Interim Buildout Requirement").

(2) A licensee shall provide reliable signal coverage and offer service within twelve (12) years from the date of the initial license to at least seventy-five (75) percent of the population in each of its license areas ("Final Buildout Requirement").

(3) If a licensee fails to establish that it meets the Interim Buildout Requirement for a particular licensed area, then the Final Buildout Requirement (in this paragraph (t)) and the license term (as set forth in § 27.13(l)) for each license area in which it fails to meet the Interim Buildout Requirement shall be accelerated by two (2) years (from twelve (12) to ten (10) years).

(4) If a licensee fails to establish that it meets the Final Buildout Requirement for a particular license area, its authorization for each license area in which it fails to meet the Final Buildout Requirement shall terminate automatically without Commission action, and the licensee will be ineligible to regain it if the Commission makes the license available at a later date.

(5) To demonstrate compliance with these performance requirements, licensees shall use the most recently available decennial U.S. Census Data at the time of measurement and shall base their measurements of population served on areas no larger than the Census Tract level. The population within a specific Census Tract (or other acceptable identifier) will be deemed served by the licensee only if it provides reliable signal coverage to and of

fers service within the specific Census Tract (or other acceptable identifier). To the extent the Census Tract (or other acceptable identifier) extends beyond the boundaries of a license area, a licensee with authorizations for such areas may include only the population within the Census Tract (or other acceptable identifier) towards meeting the performance requirement of a single, individual license. For the Gulf of Mexico license area, the licensee shall demonstrate compliance with these performance requirements, using off-shore platforms, including production, manifold, compression, pumping and valving platforms as a proxy for population in the Gulf of Mexico.

(u) This section enumerates performance requirements for EBS licenses initially issued after October 25, 2019. Licensees shall demonstrate compliance with performance requirements by filing a construction notification with the Commission, within 15 days of the expiration of the applicable benchmark, in accordance with the provisions set forth in § 1.946(d) of this chapter.

(1) All EBS licenses initially issued after October 25, 2019, must demonstrate compliance with the performance requirements described in this paragraph (u). All equipment used to demonstrate compliance must be in use and actually providing service, either for internal use or to unaffiliated customers, as of the interim deadline or final deadline, whichever is applicable.

(2) Except for licensees with licenses applied for in the Tribal Priority Window, licensees providing mobile or point-to-multipoint service must demonstrate reliable signal coverage of 50% of the population of the geographic service area within four years of initial license grant, and 80% of the population of the geographic service area within eight years of initial license grant.

(3) Except for licensees with licenses applied for in the Tribal Priority Window, licensees providing fixed point-to-point service must demonstrate operation of one link for each 50,000 persons in the geographic service area within four years of initial license grant, and one link for each 25,000 persons in the

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geographic service area within eight years of initial license grant.

(4) Licensees with licenses applied for in the Tribal Priority Window must make an interim showing under paragraph (u)(2) or (3) of this section within two years of initial license grant. Licensees with licenses applied for in the Tribal Priority Window must make a final showing under paragraph (u)(2) or (3) of this section within five years of initial license grant.

(5) If an EBS licensee (other than the licensee of a license issued pursuant to the Tribal Priority Window) fails to meet interim performance requirements described in paragraph (u)(2) or (3) of this section, the deadline for that authorization to meet its final performance requirement will be advanced by two years. If an EBS licensee of a license issued pursuant to the Tribal Priority Window fails to meet interim performance requirements described in paragraph (u)(2) or (3) of this section, the deadline for that authorization to meet its final performance requirement will be advanced by one year. If an EBS licensee fails to meet its final performance requirement, its license shall automatically terminate without specific Commission action.

(v) The following provisions apply to any licensee holding an authorization in the 3700–3980 MHz band:

(1) Licensees relying on mobile or point-to-multipoint service shall provide reliable signal coverage and offer service within eight (8) years from the date of the initial license to at least forty-five (45) percent of the population in each of its license areas ("First Buildout Requirement"). Licensee shall provide reliable signal coverage and offer service within twelve (12) years from the date of the initial license to at least eighty (80) percent of the population in each of its license areas ("Second Buildout Requirement"). Licensees relying on point-to-point service shall demonstrate within eight years of the license issue date that they have four links operating and providing service to customers or for internal use if the population within the license area is equal to or less than 268,000 and, if the population is greater than 268,000, that they have at least one link in operation and providing

service to customers, or for internal use, per every 67,000 persons within a license area ("First Buildout Requirement"). Licensees relying on point-to-point service shall demonstrate within 12 years of the license issue date that they have eight links operating and providing service to customers or for internal use if the population within the license area is equal to or less than 268,000 and, if the population within the license area is greater than 268,000, shall demonstrate they are providing service and have at least two links in operation per every 67,000 persons within a license area ("Second Buildout Requirement").

(2) In the alternative, a licensee offering Internet of Things-type services shall provide geographic area coverage within eight (8) years from the date of the initial license to thirty-five (35) percent of the license ("First Buildout Requirement"). A licensee offering Internet of Things-type services shall provide geographic area coverage within twelve (12) years from the date of the initial license to sixty-five (65) percent of the license ("Second Buildout Requirement").

(3) If a licensee fails to establish that it meets the First Buildout Requirement for a particular license area, the licensee's Second Buildout Requirement deadline and license term will be reduced by two years. If a licensee fails to establish that it meets the Second Buildout Requirement for a particular license area, its authorization for each license area in which it fails to meet the Second Buildout Requirement shall terminate automatically without Commission action, and the licensee will be ineligible to regain it if the Commission makes the license available at a later date.

(4) To demonstrate compliance with these performance requirements, licensees shall use the most recently available decennial U.S. Census Data at the time of measurement and shall base their measurements of population or geographic area served on areas no larger than the Census Tract level. The population or area within a specific

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Census Tract (or other acceptable identifier) will be deemed served by the licensee only if it provides reliable signal coverage to and offers service within the specific Census Tract (or other acceptable identifier). To the extent the Census Tract (or other acceptable identifier) extends beyond the boundaries of a license area, a licensee with authorizations for such areas may include only the population or geographic area within the Census Tract (or other acceptable identifier) towards meeting the performance requirement of a single, individual license. If a licensee does not provide reliable signal coverage to an entire license area, the license must provide a map that accurately depicts the boundaries of the area or areas within each license area not being served. Each licensee also must file supporting documentation certifying the type of service it is providing for each licensed area within its service territory and the type of technology used to provide such service. Supporting documentation must include the assumptions used to create the coverage maps, including the propagation model and the signal strength necessary to provide reliable service with the licensee's technology.

(w) The following provisions apply to any licensee holding an authorization in the 3450–3550 MHz band:

(1) *Performance requirements.* Licensees in the 3.45 GHz Service must meet the following benchmarks, based on the type of service they provide.

(i) *Mobile/point-to-multipoint service.* Licensees relying on mobile or point-to-multipoint service shall provide reliable signal coverage and offer service within four (4) years from the date of the initial license to at least forty-five (45) percent of the population in each of its license areas ("First Performance Benchmark"). Licensees shall provide reliable signal coverage and offer service within eight (8) years from the date of the initial license to at least eighty (80) percent of the population in each of its license areas ("Second Performance Benchmark").

(ii) *Point-to-point service.* Licensees relying on point-to-point service shall demonstrate within four (4) years of the license issue date that, if the population within the license area is equal

to or less than 268,000, they have four links operating and either provide service to customers or for internal use. If the population is greater than 268,000, they shall demonstrate they have at least one link in operation and either provide service to customers or for internal use per every 67,000 persons within a license area ("First Performance Benchmark"). Licensees shall demonstrate within eight (8) years of the license issue date that, if the population within license area is equal to or less than 268,000, they have eight links operating and either provide service to customers or for internal use. If the population within the license area is greater than 268,000, they shall demonstrate they have at least two links in operation and either provide service to customers or for internal use per every 67,000 persons within a license area ("Second Performance Benchmark").

(iii) *Internet of Things service.* Licensees offering Internet of Things-type services shall provide geographic area coverage within four (4) years from the date of the initial license to thirty-five (35) percent of the license ("First Performance Benchmark"). Licensees shall provide geographic area coverage within eight (8) years from the date of the initial license to sixty-five (65) percent of the license ("Second Performance Benchmark").

(2) *Failure to meet performance requirements.* If a licensee fails to establish that it meets the First Performance Benchmark for a particular license area in paragraph (w)(1) of this section, the licensee's Second Performance Benchmark deadline and license term in paragraph (w)(1) of this section will be reduced by one year. If a licensee fails to establish that it meets the Second Performance Benchmark for a particular license area, its authorization for each license area in which it fails to meet the Second Performance Benchmark shall terminate automatically without Commission action, and the licensee will be ineligible to regain it if the Commission makes the license available at a later date.

(3) *Compliance procedures.* To demonstrate compliance with the performance requirements in paragraph (w)(1) of this section, licensees shall use the

most recently available decennial U.S. Census Data at the time of measurement and shall base their measurements of population or geographic area served on areas no larger than the Census Tract level. The population or area within a specific Census Tract (or other acceptable identifier) will be deemed served by the licensee only if it provides reliable signal coverage to and offers service within the specific Census Tract (or other acceptable identifier). To the extent the Census Tract (or other acceptable identifier) extends beyond the boundaries of a license area, a licensee with authorizations for such areas may include only the population or geographic area within the Census Tract (or other acceptable identifier) towards meeting the performance requirement of a single, individual license. If a licensee does not provide reliable signal coverage to an entire license area, the license must provide a map that accurately depicts the boundaries of the area or areas within each license area not being served. Each licensee also must file supporting documentation certifying the type of service it is providing for each licensed area within its service territory and the type of technology used to provide such service. Supporting documentation must include the assumptions used to create the coverage maps, including the propagation model and the signal strength necessary to provide reliable service with the licensee's technology.

[62 FR 9658, Mar. 3, 1997]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 27.14, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at [www.govinfo.gov](http://www.govinfo.gov).

### § 27.15 Geographic partitioning and spectrum disaggregation.

(a) *Eligibility.* (1) Parties seeking approval for partitioning and disaggregation shall request from the Commission an authorization for partial assignment of a license pursuant to § 1.948.

(2) AWS and WCS licensees may apply to partition their licensed geographic service area or disaggregate their licensed spectrum at any time following the grant of their licenses.

(b) *Technical Standards—(1) Partitioning.* In the case of partitioning, applicants and licensees must file FCC Form 603 pursuant to section 1.948 and list the partitioned service area on a schedule to the application. The geographic coordinates must be specified in degrees, minutes, and seconds to the nearest second of latitude and longitude and must be based upon the 1983 North American Datum (NAD83).

(2) *Disaggregation.* Spectrum may be disaggregated in any amount.

(3) *Combined partitioning and disaggregation.* The Commission will consider requests for partial assignment of licenses that propose combinations of partitioning and disaggregation.

(4) *Signal levels.* For purposes of partitioning and disaggregation, part 27 systems must be designed so as not to exceed the signal level specified for the particular spectrum block in § 27.55 at the licensee's service area boundary, unless the affected adjacent service area licensees have agreed to a different signal level.

(c) *License term.* The license term for a partitioned license area and for disaggregated spectrum shall be the remainder of the original licensee's license term as provided for in § 27.13.

[62 FR 9658, Mar. 3, 1997, as amended at 63 FR 68954, Dec. 14, 1998; 65 FR 3146, Jan. 20, 2000; 65 FR 57268, Sept. 21, 2000; 67 FR 45373, July 9, 2002; 69 FR 5715, Feb. 6, 2004; 72 FR 48848, Aug. 24, 2007; 78 FR 8268, Feb. 5, 2013; 78 FR 50255, Aug. 16, 2013; 79 FR 596, Jan. 6, 2014; 79 FR 32412, June 4, 2014; 79 FR 48537, Aug. 15, 2014; 82 FR 41548, Sept. 1, 2017]

### § 27.16 Network access requirements for Block C in the 746–757 and 776–787 MHz bands.

(a) *Applicability.* This section shall apply only to the authorizations for Block C in the 746–757 and 776–787 MHz bands assigned and only if the results of the first auction in which licenses for such authorizations are offered satisfied the applicable reserve price.

(b) *Use of devices and applications.* Licensees offering service on spectrum subject to this section shall not deny, limit, or restrict the ability of their customers to use the devices and applications of their choice on the licensee's C Block network, except:

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(1) Insofar as such use would not be compliant with published technical standards reasonably necessary for the management or protection of the licensee's network, or

(2) As required to comply with statute or applicable government regulation.

(c) *Technical standards.* For purposes of paragraph (b)(1) of this section:

(1) Standards shall include technical requirements reasonably necessary for third parties to access a licensee's network via devices or applications without causing objectionable interference to other spectrum users or jeopardizing network security. The potential for excessive bandwidth demand alone shall not constitute grounds for denying, limiting or restricting access to the network.

(2) To the extent a licensee relies on standards established by an independent standards-setting body which is open to participation by representatives of service providers, equipment manufacturers, application developers, consumer organizations, and other interested parties, the standards will carry a presumption of reasonableness.

(3) A licensee shall publish its technical standards, which shall be non-proprietary, no later than the time at which it makes such standards available to any preferred vendors, so that the standards are readily available to customers, equipment manufacturers, application developers, and other parties interested in using or developing products for use on a licensee's networks.

(d) *Access requests.* (1) Licensees shall establish and publish clear and reasonable procedures for parties to seek approval to use devices or applications on the licensees' networks. A licensee must also provide to potential customers notice of the customers' rights to request the attachment of a device or application to the licensee's network, and notice of the licensee's process for customers to make such requests, including the relevant network criteria.

(2) If a licensee determines that a request for access would violate its technical standards or regulatory requirements, the licensee shall expeditiously provide a written response to the re-

quester specifying the basis for denying access and providing an opportunity for the requester to modify its request to satisfy the licensee's concerns.

(e) *Handset locking prohibited.* No licensee may disable features on handsets it provides to customers, to the extent such features are compliant with the licensee's standards pursuant to paragraph (b) of this section, nor configure handsets it provides to prohibit use of such handsets on other providers' networks.

(f) *Burden of proof.* Once a complainant sets forth a *prima facie* case that the C Block licensee has refused to attach a device or application in violation of the requirements adopted in this section, the licensee shall have the burden of proof to demonstrate that it has adopted reasonable network standards and reasonably applied those standards in the complainant's case. Where the licensee bases its network restrictions on industry-wide consensus standards, such restrictions would be presumed reasonable.

[72 FR 48849, Aug. 24, 2007]

### Subpart C—Technical Standards

#### § 27.50 Power limits and duty cycle.

(a) The following power limits and related requirements apply to stations transmitting in the 2305–2320 MHz band or the 2345–2360 MHz band.

(1) *Base and fixed stations.* (i) For base and fixed stations transmitting in the 2305–2315 MHz band or the 2350–2360 MHz band:

(A) The average equivalent isotropically radiated power (EIRP) must not exceed 2,000 watts within any 5 megahertz of authorized bandwidth and must not exceed 400 watts within any 1 megahertz of authorized bandwidth.

(B) The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB. The PAPR measurements should be made using either an instrument with complementary cumulative distribution function (CCDF) capabilities to determine that PAPR will not exceed 13 dB for more than 0.1 percent of the time or other Commission approved procedure. The measurement must be performed

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using a signal corresponding to the highest PAPR expected during periods of continuous transmission.

(ii) For base and fixed stations transmitting in the 2315–2320 MHz band or the 2345–2350 MHz band, the peak EIRP must not exceed 2,000 watts.

(2) *Fixed customer premises equipment stations.* For fixed customer premises equipment (CPE) stations transmitting in the 2305–2320 MHz band or in the 2345–2360 MHz band, the peak EIRP must not exceed 20 watts within any 5 megahertz of authorized bandwidth. Fixed CPE stations transmitting in the 2305–2320 MHz band or in the 2345–2360 MHz band must employ automatic transmit power control when operating so the stations operate with the minimum power necessary for successful communications. The use of outdoor antennas for CPE stations or outdoor CPE station installations operating with 2 watts per 5 megahertz or less average EIRP using the stepped emissions mask prescribed in § 27.53(a)(3) is prohibited except if professionally installed in locations removed by 20 meters from roadways or in locations where it can be shown that the ground power level of –44 dBm in the A or B blocks or –55 dBm in the C or D blocks will not be exceeded at the nearest road location. The use of outdoor antennas for fixed CPE stations operating with 2 watts per 5 megahertz or less average EIRP and the emissions mask prescribed in § 27.53(a)(1)(i) through (iii) is permitted in all locations. For fixed WCS CPE using TDD technology, the duty cycle must not exceed 38 percent;

(3) *Mobile and portable stations.* (i) For mobile and portable stations transmitting in the 2305–2315 MHz band or the 2350–2360 MHz band, the average EIRP must not exceed 50 milliwatts within any 1 megahertz of authorized bandwidth, *except that* for mobile and portable stations compliant with 3GPP LTE standards or another advanced mobile broadband protocol that avoids concentrating energy at the edge of the operating band the average EIRP must not exceed 250 milliwatts within any 5 megahertz of authorized bandwidth but may exceed 50 milliwatts within any 1 megahertz of authorized bandwidth. For mobile and portable stations using time division duplexing (TDD) tech-

nology, the duty cycle must not exceed 38 percent in the 2305–2315 MHz and 2350–2360 MHz bands. Mobile and portable stations using FDD technology are restricted to transmitting in the 2305–2315 MHz band. Power averaging shall not include intervals in which the transmitter is off.

(ii) Mobile and portable stations are not permitted to transmit in the 2315–2320 MHz and 2345–2350 MHz bands.

(iii) *Automatic transmit power control.* Mobile and portable stations transmitting in the 2305–2315 MHz band or in the 2350–2360 MHz band must employ automatic transmit power control when operating so the stations operate with the minimum power necessary for successful communications.

(iv) *Prohibition on external vehicle-mounted antennas.* The use of external vehicle-mounted antennas for mobile and portable stations transmitting in the 2305–2315 MHz band or the 2350–2360 MHz band is prohibited.

(b) The following power and antenna height limits apply to transmitters operating in the 746–758 MHz, 775–788 MHz and 805–806 MHz bands:

(1) Fixed and base stations transmitting a signal in the 757–758 and 775–776 MHz bands must not exceed an effective radiated power (ERP) of 1000 watts and an antenna height of 305 m height above average terrain (HAAT), except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 1000 watts ERP in accordance with Table 1 of this section.

(2) Fixed and base stations transmitting a signal in the 746–757 MHz and 776–787 MHz bands with an emission bandwidth of 1 MHz or less must not exceed an ERP of 1000 watts and an antenna height of 305 m HAAT, except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 1000 watts ERP in accordance with Table 1 of this section.

(3) Fixed and base stations located in a county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, and transmitting a signal in the 746–757 MHz and 776–787 MHz bands with an emission bandwidth of 1 MHz or less must not exceed an ERP of 2000 watts and an antenna height of 305 m

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HAAT, except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 2000 watts ERP in accordance with Table 2 of this section.

(4) Fixed and base stations transmitting a signal in the 746-757 MHz and 776-787 MHz bands with an emission bandwidth greater than 1 MHz must not exceed an ERP of 1000 watts/MHz and an antenna height of 305 m HAAT, except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 1000 watts/MHz ERP in accordance with Table 3 of this section.

(5) Fixed and base stations located in a county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, and transmitting a signal in the 746-757 MHz and 776-787 MHz bands with an emission bandwidth greater than 1 MHz must not exceed an ERP of 2000 watts/MHz and an antenna height of 305 m HAAT, except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 2000 watts/MHz ERP in accordance with Table 4 of this section.

(6) Licensees of fixed or base stations transmitting a signal in the 746-757 MHz and 776-787 MHz bands at an ERP greater than 1000 watts must comply with the provisions set forth in paragraph (b)(8) of this section and § 27.55(c).

(7) Licensees seeking to operate a fixed or base station located in a county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, and transmitting a signal in the 746-757 MHz and 776-787 MHz bands at an ERP greater than 1000 watts must:

(i) Coordinate in advance with all licensees authorized to operate in the 698-758 MHz, 775-788, and 805-806 MHz bands within 120 kilometers (75 miles) of the base or fixed station;

(ii) coordinate in advance with all regional planning committees, as identified in § 90.527 of this chapter, with jurisdiction within 120 kilometers (75 miles) of the base or fixed station.

(8) Licensees authorized to transmit in the 746-757 MHz and 776-787 MHz bands and intending to operate a base or fixed station at a power level permitted under the provisions of paragraph (b)(6) of this section must provide advanced notice of such operation to the Commission and to licensees authorized in their area of operation. Licensees who must be notified are all licensees authorized to operate in the 758-775 MHz and 788-805 MHz bands under part 90 of this chapter within 75 km of the base or fixed station and all regional planning committees, as identified in § 90.527 of this chapter, with jurisdiction within 75 km of the base or fixed station. Notifications must provide the location and operating parameters of the base or fixed station, including the station's ERP, antenna coordinates, antenna height above ground, and vertical antenna pattern, and such notifications must be provided at least 90 days prior to the commencement of station operation.

(9) Control stations and mobile stations transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands and fixed stations transmitting in the 787-788 MHz and 805-806 MHz bands are limited to 30 watts ERP.

(10) Portable stations (hand-held devices) transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 3 watts ERP.

(11) For transmissions in the 757-758, 775-776, 787-788, and 805-806 MHz bands, maximum composite transmit power shall be measured over any interval of continuous transmission using instrumentation calibrated in terms of RMS-equivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, etc., so as to obtain a true maximum composite measurement for the emission in question over the full bandwidth of the channel.

(12) For transmissions in the 746-757 and 776-787 MHz bands, licensees may employ equipment operating in compliance with either the measurement techniques described in paragraph (b)(11) of this section or a Commission-approved average power technique. In

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both instances, equipment employed must be authorized in accordance with the provisions of § 27.51.

(c) The following power and antenna height requirements apply to stations transmitting in the 600 MHz band and the 698–746 MHz band:

(1) Fixed and base stations transmitting a signal with an emission bandwidth of 1 MHz or less must not exceed an effective radiated power (ERP) of 1000 watts and an antenna height of 305 m height above average terrain (HAAT), except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 1000 watts ERP in accordance with Table 1 of this section;

(2) Fixed and base stations located in a county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, and transmitting a signal with an emission bandwidth of 1 MHz or less must not exceed an ERP of 2000 watts and an antenna height of 305 m HAAT, except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 2000 watts ERP in accordance with Table 2 of this section;

(3) Fixed and base stations transmitting a signal with an emission bandwidth greater than 1 MHz must not exceed an ERP of 1000 watts/MHz and an antenna height of 305 m HAAT, except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 1000 watts/MHz ERP in accordance with Table 3 of this section;

(4) Fixed and base stations located in a county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, and transmitting a signal with an emission bandwidth greater than 1 MHz must not exceed an ERP of 2000 watts/MHz and an antenna height of 305 m HAAT, except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 2000 watts/MHz ERP in accordance with Table 4 of this section;

(5) Licensees, except for licensees operating in the 600 MHz downlink band, seeking to operate a fixed or base sta-

tion located in a county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, and transmitting a signal at an ERP greater than 1000 watts must:

(i) Coordinate in advance with all licensees authorized to operate in the 698–758 MHz, 775–788, and 805–806 MHz bands within 120 kilometers (75 miles) of the base or fixed station;

(ii) coordinate in advance with all regional planning committees, as identified in § 90.527 of this chapter, with jurisdiction within 120 kilometers (75 miles) of the base or fixed station.

(6) Licensees of fixed or base stations transmitting a signal at an ERP greater than 1000 watts and greater than 1000 watts/MHz must comply with the provisions of paragraph (c)(8) of this section and § 27.55(b), except that licensees of fixed or base stations located in a county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, must comply with the provisions of paragraph (c)(8) of this section and § 27.55(b) only if transmitting a signal at an ERP greater than 2000 watts and greater than 2000 watts/MHz;

(7) A licensee authorized to operate in the 710–716 or 740–746 MHz bands may operate a fixed or base station at an ERP up to a total of 50 kW within its authorized, 6 megahertz spectrum block if the licensee complies with the provisions of § 27.55(b). The antenna height for such stations is limited only to the extent required to satisfy the requirements of § 27.55(b).

(8) Licensees intending to operate a base or fixed station at a power level permitted under the provisions of paragraph (c)(6) of this section must provide advanced notice of such operation to the Commission and to licensees authorized in their area of operation. Licensees who must be notified are all licensees authorized under this part to operate on an adjacent spectrum block within 75 km of the base or fixed station. Notifications must provide the location and operating parameters of the base or fixed station, including the station's ERP, antenna coordinates, antenna height above ground, and

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vertical antenna pattern, and such notifications must be provided at least 90 days prior to the commencement of station operation.

(9) Control and mobile stations in the 698–746 MHz band are limited to 30 watts ERP.

(10) Portable stations (hand-held devices) in the 600 MHz uplink band and the 698–746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.

(11) Licensees may employ equipment operating in compliance with either the measurement techniques described in paragraph (b)(11) of this section or a Commission-approved average power technique. In both instances, equipment employed must be authorized in accordance with the provisions of § 27.51.

(12) A licensee authorized to operate in the 716–722 or 722–728 MHz bands may operate a fixed or base station at an ERP up to a total of 50 kW within its authorized, 6 megahertz spectrum block if the licensee complies with the provisions of § 27.55(b), obtains written concurrences from all affected licensees in the 698–746 MHz bands within 120 km of the proposed high power site, and files a copy of each written concurrence with the Wireless Telecommunications Bureau on FCC Form 601. The antenna height for such stations is limited only to the extent required to satisfy the requirements of § 27.55(b).

(13) Licensees authorized to operate in the 716–722 or 722–728 MHz bands must coordinate with licensees with uplink operations in the 698–716 MHz band to mitigate the potential for harmful interference. Licensees authorized to operate in the 716–722 or 722–728 MHz bands must mitigate harmful interference to licensees' uplink operations in the 698–716 MHz band within 30 days after receiving written notice from the affected licensees. A licensee authorized to operate in the 716–722 or 722–728 MHz bands must ensure that 716–728 MHz band transmissions are filtered at least to the extent that the 716–728 MHz band transmissions are filtered in markets where the 716–728 MHz band licensee holds any license in the 698–716 band, as applicable. For purposes of coordination and mitigations measures in paragraphs (i) and (iii)

below, network will be deemed “deployed” as of the date upon which the network is able to support a commercial mobile or data service. The coordination and mitigation measures should include, but are not limited to, the following:

(i) If a licensee operating in the 698–716 and 728–746 MHz band deploys a network after the 716–722 or 722–728 MHz bands licensee deploys a network on its 716–722 or 722–728 MHz spectrum in the same geographic market, the 716–722 or 722–728 MHz bands licensee will work with the licensee with uplink operations in the 698–716 MHz band to identify sites that will require additional filtering, and will help the licensee operating in the 698–716 and 728–746 MHz bands to identify proper filters;

(ii) The 716–722 or 722–728 MHz bands licensee must permit licensees operating in the 698–716 and 728–746 MHz bands to collocate on the towers it owns at prevailing market rates; and

(iii) If a 698–716 and 728–746 MHz bands licensee deploys a network before a licensee in the 716–722 or 722–728 MHz bands deploys a network in the same geographic market, the 716–722 or 722–728 MHz bands licensee will work with licensees in the 698–716 and 728–746 MHz bands to identify sites that will need additional filtering and will purchase and pay for installation of required filters on such sites.

(d) The following power and antenna height requirements apply to stations transmitting in the 1695–1710 MHz, 1710–1755 MHz, 1755–1780 MHz, 1915–1920 MHz, 1995–2000 MHz, 2000–2020 MHz, 2110–2155 MHz, 2155–2180 MHz and 2180–2200 MHz bands:

(1) The power of each fixed or base station transmitting in the 1995–2000 MHz, 2110–2155 MHz, 2155–2180 MHz or 2180–2200 MHz band and located in any county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, is limited to:

(i) An equivalent isotropically radiated power (EIRP) of 3280 watts when transmitting with an emission bandwidth of 1 MHz or less;

(ii) An EIRP of 3280 watts/MHz when transmitting with an emission bandwidth greater than 1 MHz.

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(2) The power of each fixed or base station transmitting in the 1995–2000 MHz, the 2110–2155 MHz 2155–2180 MHz band, or 2180–2200 MHz band and situated in any geographic location other than that described in paragraph (d)(1) of this section is limited to:

(i) An equivalent isotropically radiated power (EIRP) of 1640 watts when transmitting with an emission bandwidth of 1 MHz or less;

(ii) An EIRP of 1640 watts/MHz when transmitting with an emission bandwidth greater than 1 MHz.

(3) A licensee operating a base or fixed station in the 2110–2155 MHz band utilizing a power greater than 1640 watts EIRP and greater than 1640 watts/MHz EIRP must coordinate such operations in advance with all Government and non-Government satellite entities in the 2025–2110 MHz band. A licensee operating a base or fixed station in the 2110–2180 MHz band utilizing power greater than 1640 watts EIRP and greater than 1640 watts/MHz EIRP must be coordinated in advance with the following licensees authorized to operate within 120 kilometers (75 miles) of the base or fixed station operating in this band: All Broadband Radio Service (BRS) licensees authorized under this part in the 2155–2160 MHz band and all advanced wireless services (AWS) licensees authorized to operate on adjacent frequency blocks in the 2110–2180 MHz band.

(4) Fixed, mobile, and portable (handheld) stations operating in the 1710–1755 MHz band and mobile and portable stations operating in the 1695–1710 MHz and 1755–1780 MHz bands are limited to 1 watt EIRP. Fixed stations operating in the 1710–1755 MHz band are limited to a maximum antenna height of 10 meters above ground. Mobile and portable stations operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

(5) Equipment employed must be authorized in accordance with the provisions of §24.51. Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (d)(6) of this section. In measuring trans-

missions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

(6) Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, etc., so as to obtain a true peak measurement for the emission in question over the full bandwidth of the channel.

(7) Fixed, mobile, and portable (handheld) stations operating in the 2000–2020 MHz band are limited to 2 watts EIRP, except that the total power of any portion of an emission that falls within the 2000–2005 MHz band may not exceed 5 milliwatts. A licensee of AWS-4 authority may enter into private operator-to-operator agreements with all 1995–2000 MHz licensees to operate in 2000–2005 MHz at power levels above 5 milliwatts EIRP; except the total power of the AWS-4 mobile emissions may not exceed 2 watts EIRP.

(8) A licensee operating a base or fixed station in the 2180–2200 MHz band utilizing a power greater than 1640 watts EIRP and greater than 1640 watts/MHz EIRP must be coordinated in advance with all AWS licensees authorized to operate on adjacent frequency blocks in the 2180–2200 MHz band.

(9) Fixed, mobile and portable (handheld) stations operating in the 1915–1920 MHz band are limited to 300 milliwatts EIRP.

(10) A licensee operating a base or fixed station in the 1995–2000 MHz band utilizing a power greater than 1640 watts EIRP and greater than 1640 watts/MHz EIRP must be coordinated in advance with all PCS G Block licensees authorized to operate on adjacent frequency blocks in the 1990–1995 MHz band within 120 kilometers of the base or fixed station operating in this band.

(e) The following power limits apply to the paired 1392–1395 MHz and 1432–

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1435 MHz bands as well as the unpaired 1390–1392 MHz band (1.4 GHz band):

(1) Fixed stations transmitting in the 1390–1392 MHz and 1432–1435 MHz bands are limited to 2000 watts EIRP peak power. Fixed stations transmitting in the 1392–1395 MHz band are limited to 100 watts EIRP peak power.

(2) Mobile stations transmitting in the 1390–1392 MHz and 1432–1435 MHz bands are limited to 4 watts EIRP peak power. Mobile stations transmitting in the 1392–1395 MHz band are limited to 1 watt EIRP peak power.

(f) The following power limits apply to the 1670–1675 MHz band:

(1) Fixed and base stations are limited to 2000 watts EIRP peak power.

(2) Mobile stations are limited to 4 watts EIRP peak power.

(g) [Reserved]

(h) The following power limits shall apply in the BRS and EBS:

(1) *Main, booster and base stations.* (i) The maximum EIRP of a main, booster or base station shall not exceed  $33 \text{ dBW} + 10\log(X/Y) \text{ dBW}$ , where X is the actual channel width in MHz and Y is either 6 MHz if prior to transition or the station is in the MBS following transition or 5.5 MHz if the station is in the LBS and UBS following transition, except as provided in paragraph (h)(1)(ii) of this section.

(ii) If a main or booster station sectorizes or otherwise uses one or more transmitting antennas with a non-omnidirectional horizontal plane radiation pattern, the maximum EIRP in dBW in a given direction shall be determined by the following formula:  $\text{EIRP} = 33 \text{ dBW} + 10 \log(X/Y) \text{ dBW} + 10 \log(360/\text{beamwidth}) \text{ dBW}$ , where X is the actual channel width in MHz, Y is either (i) 6 MHz if prior to transition or the station is in the MBS following transition or (ii) 5.5 MHz if the station is in the LBS and UBS following transition, and beamwidth is the total horizontal plane beamwidth of the individual transmitting antenna for the station or any sector measured at the half-power points.

(2) *Mobile and other user stations.* Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

(3) For television transmission, the peak power of the accompanying aural

signal must not exceed 10 percent of the peak visual power of the transmitter. The Commission may order a reduction in aural signal power to diminish the potential for harmful interference.

(4) For main, booster and response stations utilizing digital emissions with non-uniform power spectral density (*e.g.* unfiltered QPSK), the power measured within any 100 kHz resolution bandwidth within the 6 MHz channel occupied by the non-uniform emission cannot exceed the power permitted within any 100 kHz resolution bandwidth within the 6 MHz channel if it were occupied by an emission with uniform power spectral density, *i.e.*, if the maximum permissible power of a station utilizing a perfectly uniform power spectral density across a 6 MHz channel were 2000 watts EIRP, this would result in a maximum permissible power flux density for the station of  $2000/60 = 33.3$  watts EIRP per 100 kHz bandwidth. If a non-uniform emission were substituted at the station, station power would still be limited to a maximum of 33.3 watts EIRP within any 100 kHz segment of the 6 MHz channel, irrespective of the fact that this would result in a total 6 MHz channel power of less than 2000 watts EIRP.

(i) Peak transmit power shall be measured over any interval of continuous transmission using instrumentation calibrated in terms of rms-equivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, etc., so as to obtain a true peak measurement for the emission in question over the full bandwidth of the channel.

(j) The following power requirements apply to stations transmitting in the 3700–3980 MHz band:

(1) The power of each fixed or base station transmitting in the 3700–3980 MHz band and located in any county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, is limited to an equivalent isotropically radiated power (EIRP) of 3280 Watts/MHz. This limit applies to

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the aggregate power of all antenna elements in any given sector of a base station.

(2) The power of each fixed or base station transmitting in the 3700–3980 MHz band and situated in any geographic location other than that described in paragraph (j)(1) of this section is limited to an EIRP of 1640 Watts/MHz. This limit applies to the aggregate power of all antenna elements in any given sector of a base station.

(3) Mobile and portable stations are limited to 1 Watt EIRP. Mobile and portable stations operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

(4) Equipment employed must be authorized in accordance with the provisions of §27.51. Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (j)(5) of this section. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

(5) Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, and any other relevant factors, so as to obtain a true peak measurement for the emission in question over the full bandwidth of the channel.

(k) The following power requirements apply to stations transmitting in the 3450–3550 MHz band:

(1) The power of each fixed or base station transmitting in the 3450–3550 MHz band and located in any county with population density of 100 or fewer

persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, is limited to an equivalent isotropically radiated power (EIRP) of 3280 Watts/MHz. This limit applies to the aggregate power of all antenna elements in any given sector of a base station.

(2) The power of each fixed or base station transmitting in the 3450–3550 MHz band and situated in any geographic location other than that described in paragraph (k)(1) of this section is limited to an EIRP of 1640 Watts/MHz. This limit applies to the aggregate power of all antenna elements in any given sector of a base station.

(3) Mobile devices are limited to 1 Watt (30 dBm) EIRP. Mobile devices operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

(4) Equipment employed must be authorized in accordance with the provisions of §27.51. Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (k)(5) of this section. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

(5) Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, and any other relevant factors, so as to obtain a true peak measurement for the emission in question over the full bandwidth of the channel.

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TABLE 1 TO § 27.50—PERMISSIBLE POWER AND ANTENNA HEIGHTS FOR BASE AND FIXED STATIONS IN THE 757–758 AND 775–776 MHZ BANDS AND FOR BASE AND FIXED STATIONS IN THE 600 MHZ, 698–757 MHZ, 758–763 MHZ, 776–787 MHZ AND 788–793 MHZ BANDS TRANSMITTING A SIGNAL WITH AN EMISSION BANDWIDTH OF 1 MHZ OR LESS

Antenna height (AAT) in meters (feet)	Effective radiated power (ERP) (watts)
Above 1372 (4500) .....	65
Above 1220 (4000) To 1372 (4500) .....	70
Above 1067 (3500) To 1220 (4000) .....	75
Above 915 (3000) To 1067 (3500) .....	100
Above 763 (2500) To 915 (3000) .....	140
Above 610 (2000) To 763 (2500) .....	200
Above 458 (1500) To 610 (2000) .....	350
Above 305 (1000) To 458 (1500) .....	600
Up to 305 (1000) .....	1000

TABLE 2 TO § 27.50—PERMISSIBLE POWER AND ANTENNA HEIGHTS FOR BASE AND FIXED STATIONS IN THE 600 MHZ, 698–757 MHZ, 758–763 MHZ, 776–787 MHZ AND 788–793 MHZ BANDS TRANSMITTING A SIGNAL WITH AN EMISSION BANDWIDTH OF 1 MHZ OR LESS

Antenna height (AAT) in meters (feet)	Effective radiated power (ERP) (watts)
Above 1372 (4500) .....	130
Above 1220 (4000) To 1372 (4500) .....	140
Above 1067 (3500) To 1220 (4000) .....	150
Above 915 (3000) To 1067 (3500) .....	200
Above 763 (2500) To 915 (3000) .....	280
Above 610 (2000) To 763 (2500) .....	400
Above 458 (1500) To 610 (2000) .....	700
Above 305 (1000) To 458 (1500) .....	1200
Up to 305 (1000) .....	2000

TABLE 3 TO § 27.50—PERMISSIBLE POWER AND ANTENNA HEIGHTS FOR BASE AND FIXED STATIONS IN THE 600 MHZ, 698–757 MHZ, 758–763 MHZ, 776–787 MHZ AND 788–793 MHZ BANDS TRANSMITTING A SIGNAL WITH AN EMISSION BANDWIDTH GREATER THAN 1 MHZ

Antenna height (AAT) in meters (feet)	Effective radiated power (ERP) per MHz (watts/MHz)
Above 1372 (4500) .....	65
Above 1220 (4000) To 1372 (4500) .....	70
Above 1067 (3500) To 1220 (4000) .....	75
Above 915 (3000) To 1067 (3500) .....	100
Above 763 (2500) To 915 (3000) .....	140
Above 610 (2000) To 763 (2500) .....	200
Above 458 (1500) To 610 (2000) .....	350
Above 305 (1000) To 458 (1500) .....	600
Up to 305 (1000) .....	1000

TABLE 4 TO § 27.50—PERMISSIBLE POWER AND ANTENNA HEIGHTS FOR BASE AND FIXED STATIONS IN THE 600 MHZ, 698–757 MHZ, 758–763 MHZ, 776–787 MHZ AND 788–793 MHZ BANDS TRANSMITTING A SIGNAL WITH AN EMISSION BANDWIDTH GREATER THAN 1 MHZ

Antenna height (AAT) in meters (feet)	Effective radiated power (ERP) per MHz (watts/MHz)
Above 1372 (4500) .....	130
Above 1220 (4000) To 1372 (4500) .....	140
Above 1067 (3500) To 1220 (4000) .....	150
Above 915 (3000) To 1067 (3500) .....	200

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TABLE 4 TO § 27.50—PERMISSIBLE POWER AND ANTENNA HEIGHTS FOR BASE AND FIXED STATIONS IN THE 600 MHZ, 698–757 MHZ, 758–763 MHZ, 776–787 MHZ AND 788–793 MHZ BANDS TRANSMITTING A SIGNAL WITH AN EMISSION BANDWIDTH GREATER THAN 1 MHZ—Continued

Antenna height (AAT) in meters (feet)	Effective radiated power (ERP) per MHz (watts/MHz)
Above 763 (2500) To 915 (3000) .....	280
Above 610 (2000) To 763 (2500) .....	400
Above 458 (1500) To 610 (2000) .....	700
Above 305 (1000) To 458 (1500) .....	1200
Up to 305 (1000) .....	2000

[62 FR 16497, Apr. 7, 1997]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 27.50, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at [www.govinfo.gov](http://www.govinfo.gov).

### § 27.51 Equipment authorization.

(a) Each transmitter utilized for operation under this part must be of a type that has been authorized by the Commission under its certification procedure.

(b) Any manufacturer of radio transmitting equipment to be used in these services may request equipment authorization following the procedures set forth in subpart J of part 2 of this chapter. Equipment authorization for an individual transmitter may be requested by an applicant for a station authorization by following the procedures set forth in part 2 of this chapter.

[65 FR 3147, Jan. 20, 2000]

### § 27.52 RF exposure.

Licensees and manufacturers shall ensure compliance with the Commission's radio frequency exposure requirements in §§ 1.1307(b), 2.1091, and 2.1093 of this chapter, as appropriate. Applications for equipment authorization of mobile or portable devices operating under this section must contain a statement confirming compliance with these requirements. Technical information showing the basis for this statement must be submitted to the Commission upon request.

[85 FR 18151, Apr. 1, 2020]

### § 27.53 Emission limits.

(a) For operations in the 2305–2320 MHz band and the 2345–2360 MHz band,

the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power  $P$  (with averaging performed only during periods of transmission) within the licensed band(s) of operation, in watts, by the following amounts:

(1) For base and fixed stations' operations in the 2305–2320 MHz band and the 2345–2360 MHz band:

(i) By a factor of not less than  $43 + 10 \log (P)$  dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, and not less than  $75 + 10 \log (P)$  dB on all frequencies between 2320 and 2345 MHz;

(ii) By a factor of not less than  $43 + 10 \log (P)$  dB on all frequencies between 2300 and 2305 MHz,  $70 + 10 \log (P)$  dB on all frequencies between 2287.5 and 2300 MHz,  $72 + 10 \log (P)$  dB on all frequencies between 2285 and 2287.5 MHz, and  $75 + 10 \log (P)$  dB below 2285 MHz;

(iii) By a factor of not less than  $43 + 10 \log (P)$  dB on all frequencies between 2360 and 2362.5 MHz,  $55 + 10 \log (P)$  dB on all frequencies between 2362.5 and 2365 MHz,  $70 + 10 \log (P)$  dB on all frequencies between 2365 and 2367.5 MHz,  $72 + 10 \log (P)$  dB on all frequencies between 2367.5 and 2370 MHz, and  $75 + 10 \log (P)$  dB above 2370 MHz.

(2) For fixed customer premises equipment (CPE) stations operating in the 2305–2320 MHz band and the 2345–2360 MHz band transmitting with more than 2 watts per 5 megahertz average EIRP:

(i) By a factor of not less than  $43 + 10 \log (P)$  dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz

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that are outside the licensed band(s) of operation, and not less than  $75 + 10 \log (P)$  dB on all frequencies between 2320 and 2345 MHz;

(ii) By a factor of not less than  $43 + 10 \log (P)$  dB on all frequencies between 2300 and 2305 MHz,  $70 + 10 \log (P)$  dB on all frequencies between 2287.5 and 2300 MHz,  $72 + 10 \log (P)$  dB on all frequencies between 2285 and 2287.5 MHz, and  $75 + 10 \log (P)$  dB below 2285 MHz;

(iii) By a factor of not less than  $43 + 10 \log (P)$  dB on all frequencies between 2360 and 2362.5 MHz,  $55 + 10 \log (P)$  dB on all frequencies between 2362.5 and 2365 MHz,  $70 + 10 \log (P)$  dB on all frequencies between 2365 and 2367.5 MHz,  $72 + 10 \log (P)$  dB on all frequencies between 2367.5 and 2370 MHz, and  $75 + 10 \log (P)$  dB above 2370 MHz.

(3) For fixed CPE stations operating in the 2305–2320 MHz and 2345–2360 MHz bands transmitting with 2 watts per 5 megahertz average EIRP or less:

(i) By a factor of not less than  $43 + 10 \log (P)$  dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than  $55 + 10 \log (P)$  dB on all frequencies between 2320 and 2324 MHz and between 2341 and 2345 MHz, not less than  $61 + 10 \log (P)$  dB on all frequencies between 2324 and 2328 MHz and between 2337 and 2341 MHz, and not less than  $67 + 10 \log (P)$  dB on all frequencies between 2328 and 2337 MHz;

(ii) By a factor of not less than  $43 + 10 \log (P)$  dB on all frequencies between 2300 and 2305 MHz,  $55 + 10 \log (P)$  dB on all frequencies between 2296 and 2300 MHz,  $61 + 10 \log (P)$  dB on all frequencies between 2292 and 2296 MHz,  $67 + 10 \log (P)$  dB on all frequencies between 2288 and 2292 MHz, and  $70 + 10 \log (P)$  dB below 2288 MHz;

(iii) By a factor of not less than  $43 + 10 \log (P)$  dB on all frequencies between 2360 and 2365 MHz, and not less than  $70 + 10 \log (P)$  dB above 2365 MHz.

(4) For mobile and portable stations operating in the 2305–2315 MHz and 2350–2360 MHz bands:

(i) By a factor of not less than:  $43 + 10 \log (P)$  dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of

operation, not less than  $55 + 10 \log (P)$  dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than  $61 + 10 \log (P)$  dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than  $67 + 10 \log (P)$  dB on all frequencies between 2328 and 2337 MHz;

(ii) By a factor of not less than  $43 + 10 \log (P)$  dB on all frequencies between 2300 and 2305 MHz,  $55 + 10 \log (P)$  dB on all frequencies between 2296 and 2300 MHz,  $61 + 10 \log (P)$  dB on all frequencies between 2292 and 2296 MHz,  $67 + 10 \log (P)$  dB on all frequencies between 2288 and 2292 MHz, and  $70 + 10 \log (P)$  dB below 2288 MHz;

(iii) By a factor of not less than  $43 + 10 \log (P)$  dB on all frequencies between 2360 and 2365 MHz, and not less than  $70 + 10 \log (P)$  dB above 2365 MHz.

(5) *Measurement procedure.* Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the channel blocks at 2305, 2310, 2315, 2320, 2345, 2350, 2355, and 2360 MHz, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (*i.e.*, 1 MHz). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

(6) [Reserved]

(7) The measurements of emission power can be expressed in peak or average values, provided they are expressed in the same parameters as the transmitter power;

(8) Waiver requests of any of the out-of-band emission limits in paragraphs (a)(1) through (a)(7) of this section shall be entertained only if interference protection equivalent to that afforded by the limits is shown;

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(9) [Reserved]

(10) The out-of-band emissions limits in paragraphs (a)(1) through (a)(3) of this section may be modified by the private contractual agreement of all affected licensees, who must maintain a copy of the agreement in their station files and disclose it to prospective assignees, transferees, or spectrum lessees and, upon request, to the Commission.

(b) *For WCS Satellite DARS operations:* The limits set forth in § 25.202(f) of this chapter shall apply, except that Satellite DARS operations shall be limited to a maximum power flux density of  $-197 \text{ dBW/m}^{2/4} \text{ kHz}$  in the 2370–2390 MHz band at Arecibo, Puerto Rico.

(c) For operations in the 746–758 MHz band and the 776–788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

(1) On any frequency outside the 746–758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least  $43 + 10 \log (P) \text{ dB}$ ;

(2) On any frequency outside the 776–788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least  $43 + 10 \log (P) \text{ dB}$ ;

(3) On all frequencies between 763–775 MHz and 793–805 MHz, by a factor not less than  $76 + 10 \log (P) \text{ dB}$  in a 6.25 kHz band segment, for base and fixed stations;

(4) On all frequencies between 763–775 MHz and 793–805 MHz, by a factor not less than  $65 + 10 \log (P) \text{ dB}$  in a 6.25 kHz band segment, for mobile and portable stations;

(5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed;

(6) Compliance with the provisions of paragraphs (c)(3) and (c)(4) of this sec-

tion is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

(d) [Reserved]

(e) For operations in the 775–776 MHz and 805–806 MHz bands, transmitters must comply with either paragraphs (d)(1) through (5) of this section or the ACP emission limitations set forth in paragraphs (d)(6) to (d)(9) of this section.

(1) On all frequencies between 758–775 MHz and 788–805 MHz, the power of any emission outside the licensee's frequency bands of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by a factor not less than  $76 + 10 \log (P) \text{ dB}$  in a 6.25 kHz band segment, for base and fixed stations;

(2) On all frequencies between 758–775 MHz and 788–805 MHz, the power of any emission outside the licensee's frequency bands of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by a factor not less than  $65 + 10 \log (P) \text{ dB}$  in a 6.25 kHz band segment, for mobile and portable stations;

(3) On any frequency outside the 775–776 MHz and 805–806 MHz bands, the power of any emission shall be attenuated outside the band below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least  $43 + 10 \log (P) \text{ dB}$ ;

(4) Compliance with the provisions of paragraphs (e)(1) and (e)(2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment;

(5) Compliance with the provisions of paragraph (e)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed.

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(6) The adjacent channel power (ACP) requirements for transmitters designed for various channel sizes are shown in the following tables. Mobile station requirements apply to handheld, car mounted and control station units. The tables specify a value for the ACP as a function of the displacement from the channel center frequency and measurement bandwidth. In the following tables, "(s)" indicates a swept measurement may be used.

### 6.25 kHz MOBILE TRANSMITTER ACP REQUIREMENTS

Offset from center frequency (kHz)	Measurement bandwidth (kHz)	Maximum ACP (dBc)
6.25	6.25	-40
12.5	6.25	-60
18.75	6.25	-60
25.00	6.25	-65
37.50	25.00	-65
62.50	25.00	-65
87.50	25.00	-65
150.00	100.00	-65
250.00	100.00	-65
350.00	100.00	-65
>400 kHz to 12 MHz	30(s)	-75
12 MHz to paired receive band	30(s)	-75
In the paired receive band	30(s)	-100

### 12.5 kHz MOBILE TRANSMITTER ACP REQUIREMENTS

Offset from center frequency (kHz)	Measurement bandwidth (kHz)	Maximum ACP (dBc)
9.375	6.25	-40
15.625	6.25	-60
21.875	6.25	-60
37.50	25.00	-60
62.50	25.00	-65
87.50	25.00	-65
150.00	100	-65
250.00	100	-65
350.00	100	-65
>400 to 12 MHz	30(s)	-75
12 MHz to paired receive band	30(s)	-75
In the paired receive band	30(s)	-100

### 25 kHz MOBILE TRANSMITTER ACP REQUIREMENTS

Offset from center frequency (kHz)	Measurement bandwidth (kHz)	Maximum ACP (dBc)
15.625	6.25	-40
21.875	6.25	-60
37.50	25	-60
62.50	25	-65
87.50	25	-65
150.00	100	-65
250.00	100	-65
350.00	100	-65

### 25 kHz MOBILE TRANSMITTER ACP REQUIREMENTS—Continued

Offset from center frequency (kHz)	Measurement bandwidth (kHz)	Maximum ACP (dBc)
>400 kHz to 12 MHz	30(s)	-75
12 MHz to paired receive band	30(s)	-75
In the paired receive band	30(s)	-100

### 150 kHz MOBILE TRANSMITTER ACP REQUIREMENTS

Offset from center frequency (kHz)	Measurement bandwidth (kHz)	Maximum ACP relative (dBc)
100	50	-40
200	50	-50
300	50	-50
400	50	-50
600-1000	30(s)	-60
1000 to receive band	30(s)	-70
In the receive band	30(s)	-100

### 6.25 kHz BASE TRANSMITTER ACP REQUIREMENTS

Offset from center frequency (kHz)	Measurement bandwidth (kHz)	Maximum ACP (dBc)
6.25	6.25	-40
12.50	6.25	-60
18.75	6.25	-60
25.00	6.25	-65
37.50	25	-65
62.50	25	-65
87.50	25	-65
150.00	100	-65
250.00	100	-65
350.00	100	-65
>400 kHz to 12 MHz	30(s)	-80
12 MHz to paired receive band	30(s)	-80
In the paired receive band	30(s)	1-85

<sup>1</sup> Although we permit individual base transmitters to radiate a maximum ACP of -85 dBc in the paired receive band, licensees deploying these transmitters may not exceed an ACP of -100 dBc in the paired receive band when measured at either the transmitting antenna input port or the output of the transmitter combining network. Consequently, licensees deploying these transmitters may need to use external filters to comply with the more restrictive ACP limit.

### 12.5 kHz BASE TRANSMITTER ACP REQUIREMENTS

Offset from center frequency (kHz)	Measurement bandwidth (kHz)	Maximum ACP (dBc)
9.375	6.25	-40
15.625	6.25	-60
21.875	6.25	-60
37.5	25	-60
62.5	25	-65
87.5	25	-65
150	100	-65
250	100	-65
350.00	100	-65
>400 kHz to 12 MHz	30(s)	-80

## 12.5 kHz BASE TRANSMITTER ACP REQUIREMENTS—Continued

Offset from center frequency (kHz)	Measurement bandwidth (kHz)	Maximum ACP (dBc)
12 MHz to paired receive band	30(s)	-80
In the paired receive band	30(s)	1-85

<sup>1</sup> Although we permit individual base transmitters to radiate a maximum ACP of -85 dBc in the paired receive band, licensees deploying these transmitters may not exceed an ACP of -100 dBc in the paired receive band when measured at either the transmitting antenna input port or the output of the transmitter combining network. Consequently, licensees deploying these transmitters may need to use external filters to comply with the more restrictive ACP limit.

## 25 kHz BASE TRANSMITTER ACP REQUIREMENTS

Offset from center frequency (kHz)	Measurement bandwidth (kHz)	Maximum ACP (dBc)
15.625	6.25	-40
21.875	6.25	-60
37.5	25	-60
62.5	25	-65
87.5	25	-65
150	100	-65
250	100	-65
350	100.00	-65
>400 kHz to 12 MHz	30(s)	-80
12 MHz to paired receive band	30(s)	-80
In the paired receive band	30(s)	1-85

<sup>1</sup> Although we permit individual base transmitters to radiate a maximum ACP of -85 dBc in the paired receive band, licensees deploying these transmitters may not exceed an ACP of -100 dBc in the paired receive band when measured at either the transmitting antenna input port or the output of the transmitter combining network. Consequently, licensees deploying these transmitters may need to use external filters to comply with the more restrictive ACP limit.

## 150 kHz BASE TRANSMITTER ACP REQUIREMENTS

Offset from center frequency (kHz)	Measurement bandwidth (kHz)	Maximum ACP (dBc)
100	50	-40
200	50	-50
300	50	-55
400	50	-60
600-1000	30(s)	-65
1000 to receive band	30(s)	-75 (continues at -6dB/oct)
In the receive band	30(s)	1-85

<sup>1</sup> Although we permit individual base transmitters to radiate a maximum ACP of -85 dBc in the paired receive band, licensees deploying these transmitters may not exceed an ACP of -100 dBc in the paired receive band when measured at either the transmitting antenna input port or the output of the transmitter combining network. Consequently, licensees deploying these transmitters may need to use external filters to comply with the more restrictive ACP limit.

(7) *ACP measurement procedure.* The following procedures are to be followed for making ACP transmitter measurements. For time division multiple access (TDMA) systems, the measure-

ments are to be made under TDMA operation only during time slots when the transmitter is on. All measurements must be made at the input to the transmitter's antenna. Measurement bandwidth used below implies an instrument that measures the power in many narrow bandwidths (e.g., 300 Hz) and integrates these powers across a larger band to determine power in the measurement bandwidth.

(i) *Setting reference level.* Using a spectrum analyzer capable of ACP measurements, set the measurement bandwidth to the channel size. For example, for a 6.25 kHz transmitter, set the measurement bandwidth to 6.25 kHz; for a 150 kHz transmitter, set the measurement bandwidth to 150 kHz. Set the frequency offset of the measurement bandwidth to zero and adjust the center frequency of the spectrum analyzer to give the power level in the measurement bandwidth. Record this power level in dBm as the "reference power level".

(ii) *Non-swept power measurement.* Using a spectrum analyzer capable of ACP measurements, set the measurement bandwidth as shown in the tables above. Measure the ACP in dBm. These measurements should be made at maximum power. Calculate the coupled power by subtracting the measurements made in this step from the reference power measured in the previous step. The absolute ACP values must be less than the values given in the table for each condition above.

(iii) *Swept power measurement.* Set a spectrum analyzer to 30 kHz resolution bandwidth, 1 MHz video bandwidth and sample mode detection. Sweep  $\pm$ MHz from the carrier frequency. Set the reference level to the RMS value of the transmitter power and note the absolute power. The response at frequencies greater than 600 kHz must be less than the values in the tables above.

(8) *Out-of-band emission limit.* On any frequency outside of the frequency ranges covered by the ACP tables in this section, the power of any emission must be reduced below the unmodulated carrier power (P) by at least  $43 + 10 \log (P)$  dB.

(9) *Authorized bandwidth.* Provided that the ACP requirements of this section are met, applicants may request

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any authorized bandwidth that does not exceed the channel size.

(f) For operations in the 746–758 MHz, 775–788 MHz, and 805–806 MHz bands, emissions in the band 1559–1610 MHz shall be limited to –70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and –80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

(g) For operations in the 600 MHz band and the 698–746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least  $43 + 10 \log_{10}(P)$  dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

(h) *AWS emission limits*—(1) *General protection levels*. Except as otherwise specified below, for operations in the 1695–1710 MHz, 1710–1755 MHz, 1755–1780 MHz, 1915–1920 MHz, 1995–2000 MHz, 2000–2020 MHz, 2110–2155 MHz, 2155–2180 MHz, and 2180–2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least  $43 + 10 \log_{10}(P)$  dB.

(2) *Additional protection levels*. Notwithstanding the foregoing paragraph (h)(1) of this section:

(i) Operations in the 2180–2200 MHz band are subject to the out-of-band emission requirements set forth in § 27.1134 for the protection of federal government operations operating in the 2200–2290 MHz band.

(ii) For operations in the 2000–2020 MHz band, the power of any emissions below 2000 MHz shall be attenuated below the transmitter power (P) in watts by at least  $70 + 10 \log_{10}(P)$  dB.

(iii) For operations in the 1915–1920 MHz band, the power of any emission

between 1930–1995 MHz shall be attenuated below the transmitter power (P) in watts by at least  $70 + 10 \log_{10}(P)$  dB.

(iv) For operations in the 1995–2000 MHz band, the power of any emission between 2005–2020 MHz shall be attenuated below the transmitter power (P) in watts by at least  $70 + 10 \log_{10}(P)$  dB.

(3) *Measurement procedure*. (i) Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

(ii) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the licensee's frequency block edges, both upper and lower, as the design permits.

(iii) The measurements of emission power can be expressed in peak or average values, provided they are expressed in the same parameters as the transmitter power.

(4) *Private agreements*. (i) For AWS operations in the 2000–2020 MHz and 2180–2200 MHz bands, to the extent a licensee establishes unified operations across the AWS blocks, that licensee may choose not to observe the emission limit specified in paragraph (h)(1), above, strictly between its adjacent block licenses in a geographic area, so long as it complies with other Commission rules and is not adversely affecting the operations of other parties by virtue of exceeding the emission limit.

(ii) For AWS operations in the 2000–2020 MHz band, a licensee may enter into private agreements with all licensees operating between 1995 and 2000 MHz to allow the  $70 + 10 \log_{10}(P)$  dB limit to be exceeded within the 1995–2000 MHz band.

(iii) An AWS licensee who is a party to a private agreement described in this section (4) must maintain a copy

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of the agreement in its station files and disclose it, upon request, to prospective AWS assignees, transferees, or spectrum lessees and to the Commission.

(i) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in this section.

(j)(1) For operations in the unpaired 1390–1392 MHz band and the paired 1392–1395 MHz and 1432–1435 MHz bands, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log (P)$  dB. Compliance with these provisions is based on the procedures described in paragraph (a)(5) of this section.

(2) In the 1390–1395 MHz and 1432–1435 MHz bands, licensees are encouraged to take all reasonable steps to ensure that unwanted emission power does not exceed the following levels in the band 1400–1427 MHz:

(i) For stations of point-to-point systems in the fixed service: -45 dBW/27 MHz.

(ii) For stations in the mobile service: -60 dBW/27 MHz.

(k) For operations in the 1670–1675 MHz, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log (P)$  dB. Compliance with these provisions is based on the procedures described in paragraph (a)(5) of this section.

(l) *3.7 GHz Service.* The following emission limits apply to stations transmitting in the 3700–3980 MHz band:

(1) For base station operations in the 3700–3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (l)(1) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be

employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

(2) For mobile operations in the 3700–3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (l)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

(m) For BRS and EBS stations, the power of any emissions outside the licensee's frequency bands of operation shall be attenuated below the transmitter power (P) measured in watts in accordance with the standards below. If a licensee has multiple contiguous channels, out-of-band emissions shall be measured from the upper and lower edges of the contiguous channels.

(1) Prior to the transition, and thereafter, solely within the MBS, for analog operations with an EIRP in excess of -9 dBW, the signal shall be attenuated at the channel edges by at least 38 dB relative to the peak visual carrier, then linearly sloping from that level to at least 60 dB of attenuation at 1 MHz below the lower band edge and 0.5 MHz above the upper band edge, and attenuated at least 60 dB at all other frequencies.

(2) For digital base stations, the attenuation shall be not less than  $43 + 10$

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log (P) dB, unless a documented interference complaint is received from an adjacent channel licensee with an overlapping Geographic Service Area. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS No. 1 on the same terms and conditions as adjacent channel BRS or EBS licensees. Provided that a documented interference complaint cannot be mutually resolved between the parties prior to the applicable deadline, then the following additional attenuation requirements shall apply:

(i) If a pre-existing base station suffers harmful interference from emissions caused by a new or modified base station located 1.5 km or more away, within 24 hours of the receipt of a documented interference complaint the licensee of the new or modified base station must attenuate its emissions by at least  $67 + 10 \log (P)$  dB measured at 3 megahertz, above or below, from the channel edge of its frequency block and shall immediately notify the complaining licensee upon implementation of the additional attenuation. No later than 60 days after the implementation of such additional attenuation, the licensee of the complaining base station must attenuate its base station emissions by at least  $67 + 10 \log (P)$  dB measured at 3 megahertz, above or below, from the channel edge of its frequency block of the new or modified base station.

(ii) If a pre-existing base station suffers harmful interference from emissions caused by a new or modified base station located less than 1.5 km away, within 24 hours of receipt of a documented interference complaint the licensee of the new or modified base station must attenuate its emissions by at least  $67 + 10 \log (P) - 20 \log (D_{km}/1.5)$  dB measured at 3 megahertz, above or below, from the channel edge of its frequency block of the complaining licensee, or if both base stations are co-located, limit its undesired signal level at the pre-existing base station receiver(s) to no more than -107 dBm measured in a 5.5 megahertz bandwidth and shall immediately notify the complaining licensee upon such reduction

in the undesired signal level. No later than 60 days after such reduction in the undesired signal level, the complaining licensee must attenuate its base station emissions by at least  $67 + 10 \log (P)$  dB measured at 3 megahertz, above or below, from the channel edge of its frequency block of the new or modified base station.

(iii) If a new or modified base station suffers harmful interference from emissions caused by a pre-existing base station located 1.5 km or more away, within 60 days of receipt of a documented interference complaint the licensee of each base station must attenuate its base station emissions by at least  $67 + 10 \log (P)$  dB measured at 3 megahertz, above or below, from the channel edge of its frequency block of the other licensee.

(iv) If a new or modified base station suffers harmful interference from emissions caused by a pre-existing base station located less than 1.5 km away, within 60 days of receipt of a documented interference complaint: (a) The licensee of the new or modified base station must attenuate its OOB by at least  $67 + 10 \log (P) - 20 \log (D_{km}/1.5)$  measured 3 megahertz above or below, from the channel edge of its frequency block of the other licensee, or if the base stations are co-located, limit its undesired signal level at the other base station receiver(s) to no more than -107 dBm measured in a 5.5-megahertz bandwidth; and (b) the licensee causing the interference must attenuate its emissions by at least  $67 + 10 \log (P)$  dB measured at 3 megahertz, above or below, from the channel edge of its frequency block of the new or modified base station.

(v) For all fixed digital user stations, the attenuation factor shall be not less than  $43 + 10 \log (P)$  dB at the channel edge.

(3) Prior to transition and thereafter solely within the MBS, and notwithstanding paragraph (1)(2) of this section, the maximum out-of-band power of a digital transmitter operating on a single 6 MHz channel with an EIRP in excess of -9 dBW employing digital modulation for the primary purpose of transmitting video programming shall be attenuated at the 6 MHz channel

edges at least 25 dB relative to the licensed average 6 MHz channel power level, then attenuated along a linear slope to at least 40 dB at 250 kHz beyond the nearest channel edge, then attenuated along a linear slope from that level to at least 60 dB at 3 MHz above the upper and below the lower licensed channel edges, and attenuated at least 60 dB at all other frequencies.

(4) For mobile digital stations, the attenuation factor shall be not less than  $40 + 10 \log (P)$  dB on all frequencies between the channel edge and 5 megahertz from the channel edge,  $43 + 10 \log (P)$  dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and  $55 + 10 \log (P)$  dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than  $43 + 10 \log (P)$  dB on all frequencies between 2490.5 MHz and 2496 MHz and  $55 + 10 \log (P)$  dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

(5) Notwithstanding the provisions of paragraphs (1)(2) and (1)(4) of this section, prior to transition, a licensee may continue to operate facilities deployed as of January 10, 2005 provided that such facilities operate in compliance with the emission mask applicable to those services prior to January 10, 2005.

(6) *Measurement procedure.* Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed; for mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent

may be employed, except when the 1 megahertz band is 2495–2496 MHz, in which case a resolution bandwidth of at least one percent may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 megahertz or 1 percent of emission bandwidth, as specified; or 1 megahertz or 2 percent for mobile digital stations, except in the band 2495–2496 MHz). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. With respect to television operations, measurements must be made of the separate visual and aural operating powers at sufficiently frequent intervals to ensure compliance with the rules.

(7) *Alternative out of band emission limit.* Licensees in this service may establish an alternative out of band emission limit to be used at specified band edge(s) in specified geographical areas, in lieu of that set forth in this section, pursuant to a private contractual arrangement of all affected licensees and applicants. In this event, each party to such contract shall maintain a copy of the contract in their station files and disclose it to prospective assignees or transferees and, upon request, to the FCC.

(n) *3.45 GHz Service.* The following emission limits apply to stations transmitting in the 3450–3550 MHz band:

(1) For base station operations in the 3450–3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed  $-13 \text{ dBm/MHz}$ . Compliance with the provisions of this paragraph (n)(1) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed, but limited to a maximum of 200 kHz. The emission

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bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. Notwithstanding the channel edge requirement of -13 dBm per megahertz, for base station operations in the 3450-3550 MHz band, the conducted power of any emission below 3440 MHz or above 3560 MHz shall not exceed -25 dBm/MHz, and the conducted power of emissions below 3430 MHz or above 3570 MHz shall not exceed -40 dBm/MHz.

(2) For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (n)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed, but limited to a maximum of 200 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

(o) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in this section.

[62 FR 16497, Apr. 7, 1997]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 27.53, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at [www.govinfo.gov](http://www.govinfo.gov).

## § 27.54 Frequency stability.

The frequency stability shall be sufficient to ensure that the fundamental

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emissions stay within the authorized bands of operation.

### § 27.55 Power strength limits.

(a) *Field strength limits.* For the following bands, the predicted or measured median field strength at any location on the geographical border of a licensee's service area shall not exceed the value specified unless the adjacent affected service area licensee(s) agree(s) to a different field strength. This value applies to both the initially offered service areas and to partitioned service areas.

(1) 1995-2000 MHz, 2110-2155, 2155-2180, 2180-2200, 2305-2320, and 2345-2360 MHz bands: 47 dB $\mu$ V/m.

(2) 600 MHz, 698-758, and 775-787 MHz bands: 40 dB $\mu$ V/m.

(3) The paired 1392-1395 MHz and 1432-1435 MHz bands and the unpaired 1390-1392 MHz band (1.4 GHz band): 47 dB $\mu$ V/m.

(4) BRS and EBS: The predicted or measured median field strength at any location on the geographical border of a licensee's service area shall not exceed the value specified unless the adjacent affected service area licensee(s) agree(s) to a different field strength. This value applies to both the initially offered services areas and to partitioned services areas. Licensees may exceed this signal level where there is no affected licensee that is constructed and providing service. Once the affected licensee is providing service, the original licensee will be required to take whatever steps necessary to comply with the applicable power level at its GSA boundary, absent consent from the affected licensee.

(i) Prior to transition, the signal strength at any point along the licensee's GSA boundary does not exceed the greater of that permitted under the licensee's Commission authorizations as of January 10, 2005 or 47 dB $\mu$ V/m.

(ii) Following transition, for stations in the LBS and UBS, the signal strength at any point along the licensee's GSA boundary must not exceed 47 dB $\mu$ V/m. This field strength is to be measured at 1.5 meters above the ground over the channel bandwidth (*i.e.*, each 5.5 MHz channel for licensees that hold a full channel block, and for

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the 5.5 MHz channel for licensees that hold individual channels).

(iii) Following transition, for stations in the MBS, the signal strength at any point along the licensee's GSA boundary must not exceed the greater of  $-73.0 + 10 \log(X/6)$  dBW/m<sup>2</sup>, where X is the bandwidth in megahertz of the channel, or for facilities that are substantially similar to the licensee's pre-transition facilities (including modifications that do not alter the fundamental nature or use of the transmissions), the signal strength at such point that resulted from the station's operations immediately prior to the transition, provided that such operations complied with paragraph (a)(4)(i) of this section.

(b) *Power flux density limit for stations operating in the 698–746 MHz bands.* For base and fixed stations operating in the 698–746 MHz band in accordance with the provisions of § 27.50(c)(6), the power flux density that would be produced by such stations through a combination of antenna height and vertical gain pattern must not exceed 3000 microwatts per square meter on the ground over the area extending to 1 km from the base of the antenna mounting structure.

(c) *Power flux density limit for stations operating in the 746–757 MHz and 776–787 MHz bands.* For base and fixed stations operating in the 746–757 MHz and 776–787 MHz bands in accordance with the provisions of § 27.50(b)(6), the power flux density that would be produced by such stations through a combination of antenna height and vertical gain pattern must not exceed 3000 microwatts per square meter on the ground over the area extending to 1 km from the base of the antenna mounting structure.

(d) *Power flux density for stations operating in the 3700–3980 MHz band.* For base and fixed stations operation in the 3700–3980 MHz band in accordance with the provisions of § 27.50(j), the power flux density (PFD) at any location on the geographical border of a licensee's service area shall not exceed -76 dBm/m<sup>2</sup>/MHz. This power flux density will be measured at 1.5 meters above ground. Licensees in adjacent geographic areas may voluntarily agree to operate under a higher PFD at their common boundary.

(e) *Power flux density for stations operating in the 3450–3550 MHz band.* For base and fixed stations operation in the 3450–3550 MHz band in accordance with the provisions of § 27.50(k), the power flux density (PFD) at any location on the geographical border of a licensee's service area shall not exceed -76 dBm/m<sup>2</sup>/MHz. This power flux density will be measured at 1.5 meters above ground. Licensees in adjacent geographic areas may voluntarily agree to operate under a higher PFD at their common boundary.

[69 FR 5715, Feb. 6, 2004, as amended at 69 FR 72034, Dec. 10, 2004; 72 FR 27712, May 16, 2007; 72 FR 48852, Aug. 24, 2007; 73 FR 26040, May 8, 2008; 78 FR 8270, Feb. 5, 2013; 78 FR 50256, Aug. 16, 2013; 79 FR 599, Jan. 6, 2014; 79 FR 32413, June 4, 2014; 79 FR 48539, Aug. 15, 2014; 85 FR 22882, Apr. 23, 2020; 86 FR 17954, Apr. 7, 2021]

**§ 27.56 Antenna structures; air navigation safety.**

A licensee that owns its antenna structure(s) must not allow such antenna structure(s) to become a hazard to air navigation. In general, antenna structure owners are responsible for registering antenna structures with the FCC if required by part 17 of this chapter, and for installing and maintaining any required marking and lighting. However, in the event of default of this responsibility by an antenna structure owner, the FCC permittee or licensee authorized to use an affected antenna structure will be held responsible by the FCC for ensuring that the antenna structure continues to meet the requirements of part 17 of this chapter. See § 17.6 of this chapter.

(a) *Marking and lighting.* Antenna structures must be marked, lighted and maintained in accordance with part 17 of this chapter and all applicable rules and requirements of the Federal Aviation Administration. For any construction or alteration that would exceed the requirements of section 17.7 of this chapter, licensees must notify the appropriate Regional Office of the Federal Aviation Administration (FAA Form 7460-1) and file a request for antenna height clearance and obstruction marking and lighting specifications (FCC Form 854) with the FCC, WTB, 1270 Fairfield Road, Gettysburg, PA 17325.

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(b) *Maintenance contracts.* Antenna structure owners (or licensees and permittees, in the event of default by an antenna structure owner) may enter into contracts with other entities to monitor and carry out necessary maintenance of antenna structures. Antenna structure owners (or licensees and permittees, in the event of default by an antenna structure owner) that make such contractual arrangements continue to be responsible for the maintenance of antenna structures in regard to air navigation safety.

### § 27.57 International coordination.

(a) WCS operations in the border areas shall be subject to coordination with those countries and provide protection to non-U.S. operations in the 2305–2320 and 2345–2360 MHz bands as appropriate. In addition, satellite DARS operations in WCS spectrum shall be subject to international satellite coordination procedures.

(b) Wireless operations in the 512–608 MHz, 614–763 MHz, 775–793 MHz, and 805–806 MHz bands are subject to current and future international agreements between the United States and Canada and the United States and Mexico. Unless otherwise modified by international treaty, licenses must not cause interference to, and must accept harmful interference from, television broadcast operations in Mexico and Canada, where these services are co-primary in the band.

(c) Operation in the 1695–1710 MHz, 1710–1755 MHz, 1755–1780 MHz, 1915–1920 MHz, 1995–2000 MHz, 2000–2020 MHz, 2110–2155 MHz, 2155–2180 MHz, 2180–2200 MHz, 3450–3550 MHz, and 3700–3980 MHz bands is subject to international agreements with Mexico and Canada.

[62 FR 9658, Mar. 3, 1997, as amended at 67 FR 5511, Feb. 6, 2002; 69 FR 5715, Feb. 6, 2004; 72 FR 48852, Aug. 24, 2007; 79 FR 599, Jan. 6, 2014; 79 FR 32413, June 4, 2014; 79 FR 48539, Aug. 15, 2014; 86 FR 17954, Apr. 7, 2021]

### § 27.58 Interference to BRS/EBS receivers.

(a) WCS licensees shall bear full financial obligation to remedy interference to BRS/EBS block downconverters if all of the following conditions are met:

(1) The complaint is received by the WCS licensee prior to February 20, 2002;

(2) The BRS/EBS downconverter was installed prior to August 20, 1998;

(3) The WCS fixed or land station transmits at 50 or more watts peak EIRP;

(4) The BRS/EBS downconverter is located within a WCS transmitter's free space power flux density contour of  $-34 \text{ dBW/m}^2$ ; and

(5) The BRS/EBS customer or licensee has informed the WCS licensee of the interference within one year from the initial operation of the WCS transmitter or within one year from any subsequent power increases at the WCS station.

(b) Resolution of the complaint shall be at no cost to the complainant.

(c) Two or more WCS licensees collocating their antennas on the same tower shall assume shared responsibility for remedying interference complaints within the area determined by paragraph (a)(4) of this section unless an offending station can be readily determined and then that station shall assume full financial responsibility.

(d) If the WCS licensee cannot otherwise eliminate interference caused to BRS/EBS reception, then that licensee must cease operations from the offending WCS facility.

(e) At least 30 days prior to commencing operations from any new WCS transmission site or with increased power from any existing WCS transmission site, a WCS licensee shall notify all BRS/EBS licensees in or through whose licensed service areas they intend to operate of the technical parameters of the WCS transmission facility. WCS and BRS/EBS licensees are expected to coordinate voluntarily and in good faith to avoid interference problems and to allow the greatest operational flexibility in each other's operations.

[62 FR 16498, Apr. 7, 1997, as amended at 69 FR 72034, Dec. 10, 2004]

### §§ 27.59–27.62 [Reserved]

### § 27.64 Protection from interference.

Wireless Communications Service (WCS) stations operating in full accordance with applicable FCC rules and

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the terms and conditions of their authorizations are normally considered to be non-interfering. If the FCC determines, however, that interference which significantly interrupts or degrades a radio service is being caused, it may, after notice and an opportunity for a hearing, require modifications to any WCS station as necessary to eliminate such interference.

(a) *Failure to operate as authorized.* Any licensee causing interference to the service of other stations by failing to operate its station in full accordance with its authorization and applicable FCC rules shall discontinue all transmissions, except those necessary for the immediate safety of life or property, until it can bring its station into full compliance with the authorization and rules.

(b) *Intermodulation interference.* Licensees should attempt to resolve such interference by technical means.

(c) *Situations in which no protection is afforded.* Except as provided elsewhere in this part, no protection from interference is afforded in the following situations:

(1) *Interference to base receivers from base or fixed transmitters.* Licensees should attempt to resolve such interference by technical means or operating arrangements.

(2) *Interference to mobile receivers from mobile transmitters.* No protection is provided against mobile-to-mobile interference.

(3) *Interference to base receivers from mobile transmitters.* No protection is provided against mobile-to-base interference.

(4) *Interference to fixed stations.* Licensees should attempt to resolve such interference by technical means or operating arrangements.

(5) *Anomalous or infrequent propagation modes.* No protection is provided against interference caused by tropospheric and ionospheric propagation of signals.

(d) *Harmful interference to SDARS operations requiring resolution.* The following conditions will be presumed to constitute harmful interference to SDARS operations from WCS operations in the 2305–2320 MHz and 2345–2360 MHz bands and require WCS operators to work cooperatively with

SDARS operators to address areas where such power levels are exceeded and harmful interference occurs:

(1) A WCS ground signal level greater than –44 dBm in the upper or lower A or B block, or –55 dBm in the C or D block, present at a location on a roadway, where a test demonstrates that SDARS service would be muted over a road distance of greater than 50 meters; or

(2) A WCS ground signal level exceeding –44 dBm in the upper or lower A or B block, or –55 dBm in the C or D block on a test drive route, which is mutually agreed upon by the WCS licensee and the SDARS licensee, for more than 1 percent of the cumulative surface road distance on that drive route, where a test demonstrates that SDARS service would be muted over a cumulative road distance of greater than 0.5 percent (incremental to any muting present prior to use of WCS frequencies in the area of that drive test).

[62 FR 9658, Mar. 3, 1997, as amended at 78 FR 9621, Feb. 11, 2013]

### § 27.65 Acceptance of interference in 2000–2020 MHz.

(a) Receivers operating in the 2000–2020 MHz band must accept interference from lawful operations in the 1995–2000 MHz band, where such interference is due to:

(1) The in-band power of any operations in 1995–2000 MHz (i.e., the portion transmit power contained in the 1995–2000 MHz band); or

(2) The portion of out-of-band emissions contained in 2000–2005 MHz.

(b) [Reserved]

[78 FR 8270, Feb. 5, 2013]

### § 27.66 Discontinuance, reduction, or impairment of service.

(a) *Involuntary act.* If the service provided by a fixed common carrier licensee, or a fixed common carrier operating on spectrum licensed to a Guard Band Manager, is involuntarily discontinued, reduced, or impaired for a period exceeding 48 hours, the licensee must promptly notify the Commission, in writing, as to the reasons for discontinuance, reduction, or impairment of service, including a statement when normal service is to be resumed. When

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normal service is resumed, the licensee must promptly notify the Commission.

(b) *Voluntary act by common carrier.* If a fixed common carrier licensee, or a fixed common carrier operating on spectrum licensed to a Guard Band Manager, voluntarily discontinues, reduces, or impairs service to a community or part of a community, it must obtain prior authorization as provided under § 63.71 of this chapter. An application will be granted within 31 days after filing if no objections have been received.

(c) *Voluntary act by non-common carrier.* If a fixed non-common carrier licensee, or a fixed non-common carrier operating on spectrum licensed to a Guard Band Manager, voluntarily discontinues, reduces, or impairs service to a community or part of a community, it must give written notice to the Commission within seven days.

(d) *Notifications and requests.* Notifications and requests identified in paragraphs(a) through (c) of this section should be sent to: Federal Communications Commission, Common Carrier Radio Services, 1270 Fairfield Road, Gettysburg, Pennsylvania, 17325.

[65 FR 3149, Jan. 20, 2000; 65 FR 12483, Mar. 9, 2000, as amended at 65 FR 17605, Apr. 4, 2000; 65 FR 57267, Sept. 21, 2000]

### § 27.70 Information exchange.

(a) *Prior notification.* Public safety licensees authorized to operate in the 758–775 MHz and 788–805 MHz bands may notify any licensee authorized to operate in the 746–757 or 776–787 MHz bands that they wish to receive prior notification of the activation or modification of the licensee's base or fixed stations in their area. Thereafter, the 746–757 or 776–787 MHz band licensee must provide the following information to the public safety licensee at least 10 business days before a new base or fixed station is activated or an existing base or fixed station is modified:

- (1) Location;
- (2) Effective radiated power;
- (3) Antenna height; and
- (4) Channels available for use.

(b) *Purpose of prior notification.* The prior coordination of base or fixed stations is for informational purposes only. Public safety licensees are not afforded the right to accept or reject the

activation of a proposed base or fixed station or to unilaterally require changes in its operating parameters. The principal purposes of notification are to:

(1) Allow a public safety licensee to advise the 746–757 or 776–787 MHz band licensee whether it believes a proposed base or fixed station will generate unacceptable interference;

(2) Permit 746–757 and 776–787 MHz band licensees to make voluntary changes in base or fixed station parameters when a public safety licensee alerts them to possible interference; and,

(3) Rapidly identify the source if interference is encountered when the base or fixed station is activated.

[72 FR 27712, May 16, 2007, as amended at 72 FR 48853, Aug. 24, 2007; 79 FR 599, Jan. 6, 2014]

### § 27.72 Information sharing requirements.

This section requires WCS licensees in the 2305–2320 MHz and 2345–2360 MHz bands to share information regarding the location and operation of base and fixed stations (except fixed customer premises equipment) with Satellite Digital Audio Radio Service (SDARS) licensees in the 2320–2345 MHz band. Section 25.263 of this chapter requires SDARS licensees in the 2320–2345 MHz band to share information regarding the location and operation of terrestrial repeaters with WCS licensees in the 2305–2320 MHz and 2345–2360 MHz bands. WCS licensees are encouraged to develop separate coordination agreements with SDARS licensees to facilitate efficient deployment of and coexistence between each service. To the extent the provisions of any such coordination agreement conflict with the requirements set forth herein, the procedures established under a coordination agreement will control. WCS licensees must maintain a copy of any coordination agreement with an SDARS licensee in their station files and disclose it to prospective assignees, transferees, or spectrum lessees and, upon request, to the Commission.

(a) *Sites and frequency selections.* WCS licensees must select base and fixed

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station sites and frequencies, to the extent practicable, to minimize the possibility of harmful interference to operations in the SDARS 2320-2345 MHz band.

(b) *Prior notice periods.* WCS licensees that intend to operate a base or fixed station must, before commencing such operation, provide 10 business days prior notice to all SDARS licensees. WCS licensees that intend to modify an existing station must, before commencing such modified operation, provide 5 business days prior notice to all SDARS licensees. For the purposes of this section, a business day is defined by §1.4(e)(2) of this chapter.

(1) For modifications other than changes in location, a licensee may provide notice within 24 hours after the modified operation if the modification does not result in a predicted increase of the power flux density (PFD) at ground level by more than 1 dB since the last advance notice was given. If a demonstration is made by the SDARS licensee that such modifications may cause harmful interference to SDARS receivers, WCS licensees will be required to provide notice 5 business days in advance of additional station modifications.

(2) WCS base and fixed stations operating below 2 watts equivalent isotropically radiated power (EIRP) are exempt from the notice requirements set forth in this paragraph.

(3) WCS and SDARS licensees may enter into agreements regarding alternative notification procedures.

(c) *Contents of notice.* (1) Notification must be written (e.g., certified letter, fax, or e-mail) and include the licensee's name, and the name, address, and telephone number of its coordination representative, unless the SDARS licensee and all potentially affected WCS licensees reach a mutual agreement to provide notification by some other means. WCS licensees and SDARS licensees may establish such a mutually agreeable alternative notification mechanism without prior Commission approval, provided that they comply with all other requirements of this section.

(2) Regardless of the notification method, it must specify relevant technical details, including, at a minimum:

(i) The coordinates of the proposed base or fixed stations to an accuracy of no less than  $\pm 1$  second latitude and longitude;

(ii) The proposed operating power(s), frequency band(s), and emission(s);

(iii) The antenna center height above ground and ground elevation above mean sea level, both to an accuracy of no less than  $\pm 1$  meter;

(iv) The antenna gain pattern(s) in the azimuth and elevation planes that include the peak of the main beam; and

(v) The antenna downtilt angle(s).

(3) A WCS licensee operating base or fixed stations must maintain an accurate and up-to-date inventory of its stations, including the information set forth in §27.72(c)(2), which shall be available upon request by the Commission.

(d) *Calculation of notice period.* Notice periods are calculated from the date of receipt by the licensee being notified. If notification is by mail, the date of receipt is evidenced by the return receipt on certified mail. If notification is by fax, the date of receipt is evidenced by the notifying party's fax transmission confirmation log. If notification is by e-mail, the date of receipt is evidenced by a return e-mail receipt. If the SDARS licensee and all potentially affected WCS licensees reach a mutual agreement to provide notification by some other means, that agreement must specify the method for determining the beginning of the notice period.

(e) *Duty to cooperate.* WCS licensees must cooperate in good faith in the selection and use of new station sites and new frequencies to reduce interference and make the most effective use of the authorized facilities. WCS licensees should provide SDARS licensees as much lead time as practicable to provide ample time to conduct analyses and opportunity for prudent base station site selection prior to WCS licensees entering into real estate and tower leasing or purchasing agreements. WCS licensees must have sufficient operational flexibility in their network design to implement one or more technical solutions to remedy harmful interference. Licensees of stations suffering or causing harmful interference, as defined in §27.64(d), must cooperate

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in good faith and resolve such problems by mutually satisfactory arrangements. If the licensees are unable to do so, the Wireless Telecommunications Bureau, in consultation with the Office of Engineering and Technology and the Space Bureau, will consider the actions taken by the parties to mitigate the risk of and remedy any alleged interference. In determining the appropriate action, the Bureau will take into account the nature and extent of the interference and act promptly to remedy the interference. The Bureau may impose restrictions on WCS licensees, including specifying the transmitter power, antenna height, or other technical or operational measures to remedy the interference, and will take into account previous measures by the licensees to mitigate the risk of interference.

[75 FR 45071, Aug. 2, 2010, as amended at 78 FR 9622, Feb. 11, 2013; 88 FR 21442, Apr. 10, 2023]

### § 27.73 WCS, AMT, and Goldstone coordination requirements.

This section requires Wireless Communications Services (WCS) licensees in the 2305–2320 MHz and 2345–2360 MHz bands, respectively, to coordinate the deployment of base and fixed stations (except fixed customer premises equipment) with the Goldstone, CA Deep Space Network (DSN) facility in the 2290–2300 MHz band and with Aeronautical Mobile Telemetry (AMT) facilities in the 2360–2395 MHz band; and to take all practicable steps necessary to minimize the risk of harmful interference to AMT and DSN facilities.

(a) WCS licensees operating base and fixed stations in the 2345–2360 MHz band must, prior to operation of such stations, achieve a mutually satisfactory coordination agreement with the AMT entity(ies) (*i.e.*, FCC licensee(s) and/or Federal operator(s)) for any AMT receiver facility within 45 kilometers or radio line of sight, whichever distance is larger, of the intended WCS base or fixed station location. The coordinator for the assignment of flight test frequencies in the 2360–2390 MHz band, Aerospace and Flight Test Radio Coordination Council (AFTRCC) or successors of AFTRCC, will facilitate a mutually satisfactory coordination

agreement between the WCS licensee(s) and AMT entity(ies) for existing AMT receiver sites. The locations of current Federal and non-Federal AMT receiver sites may be obtained from AFTRCC at Post Office Box 12822 Wichita, KS 67277-2822, (316) 946-8826, or successor frequency coordinators of AFTRCC. Such coordination agreement shall provide protection to existing AMT receiver stations consistent with International Telecommunication Union (ITU) Recommendation ITU-R M.1459, “Protection criteria for telemetry systems in the aeronautical mobile service and mitigation techniques to facilitate sharing with geostationary broadcasting-satellite and mobile-satellite services in the frequency bands 1 452-1 525 MHz and 2 310-2 360 MHz May 2000 edition,” adopted May 2000, as adjusted using generally accepted engineering practices and standards to take into account the local conditions and operating characteristics of the applicable AMT and WCS facilities. ITU-R M.1459 is incorporated by reference into this section with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. This incorporation by reference (IBR) material is available for inspection at the FCC and at the National Archives and Records Administration (NARA). Contact the FCC through the Federal Communications Commission’s Reference Information Center, phone: (202) 418-0270. For information on the availability of this material at NARA, visit [www.archives.gov/federal-register/cfr/ibr-locations.html](http://www.archives.gov/federal-register/cfr/ibr-locations.html) or email [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov). The material may be obtained from ITU, Place des Nations, 1211 Geneva 20, Switzerland; website: [www.itu.int/en/publications/Pages/default.aspx](http://www.itu.int/en/publications/Pages/default.aspx).

(b) WCS licensees operating base and fixed stations in the 2305–2320 MHz band must, prior to operation of such stations, achieve a mutually satisfactory coordination agreement with the National Aeronautics and Space Administration (NASA) within 145 kilometers of the Goldstone, CA earth station site (35°25'33" N, 116°53'23" W).

(c) After base or fixed station operations commence, upon receipt of a complaint of harmful interference, the

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WCS licensee(s) receiving the complaint, no matter the distance from the NASA Goldstone, CA earth station or from an AMT site, operating in the 2305–2320 or 2345–2360 MHz bands, respectively, shall take all practicable steps to immediately eliminate the interference.

(d) *Duty to cooperate.* WCS licensees, AFTRCC, and NASA must cooperate in good faith in the coordination and deployment of new facilities. WCS licensees must also cooperate in good faith in the selection and use of new station sites and new frequencies when within radio line of site of AMT receiver facilities to reduce the risk of harmful interference and make the most effective use of the authorized facilities. Licensees of stations suffering or causing harmful interference must cooperate in good faith and resolve such problems by mutually satisfactory arrangements. If the licensees are unable to do so, the Wireless Telecommunications Bureau, in consultation with the Office of Engineering and Technology and the National Telecommunications and Information Administration may impose restrictions including specifying the transmitter power, antenna height, or area or hours of operation of the stations.

[75 FR 45072, Aug. 2, 2010, as amended at 78 FR 9622, Feb. 11, 2013; 85 FR 64407, Oct. 13, 2020; 88 FR 21442, Apr. 10, 2023]

### § 27.75 Basic interoperability requirement.

(a)(1) Mobile and portable stations that operate on any portion of frequencies in the paired 1755–1780 MHz and 2155–2180 MHz band must be capable of operating on all frequencies in the paired 1710–1780 MHz and 2110–2180 MHz band, using the same air interfaces that the equipment utilizes on any frequencies in the paired 1710–1780 MHz and 2110–2180 MHz band.

(2) Mobile and portable stations that operate on any portion of frequencies in the 600 MHz band must be capable of operating on all frequencies in the 600 MHz band using the same air interfaces that the equipment utilizes on any frequencies in the 600 MHz band.

(3) Mobile and portable stations that operate on any portion of frequencies in the 3700–3980 MHz band must be ca-

pable of operating on all frequencies in the 3700–3980 MHz band using the same air interfaces that the equipment utilizes on any frequencies in the 3700–3980 MHz band.

(4) Mobile and portable stations that operate on any portion of frequencies in the 3450–3550 MHz band must be capable of operating on all frequencies in the 3450–3550 MHz band using the same air interfaces that the equipment utilizes on any frequencies in the 3450–3550 MHz band.

(b) The basic interoperability requirement in paragraph (a) of this section does not require a licensee to use any particular industry standard. Devices may also contain functions that are not operational in U.S. Territories.

[79 FR 32413, June 4, 2014, as amended at 79 FR 48539, Aug. 15, 2014; 85 FR 22882, Apr. 23, 2020; 86 FR 17954, Apr. 7, 2021]

### § 27.77 Restriction on mobile and portable equipment in the 1695–1710 MHz and 1755–1780 MHz bands.

Mobile and portable stations in the 1695–1710 MHz and 1755–1780 MHz bands may operate only when under the control of a base station. Base stations that enable mobile or portable equipment to operate in the 1695–1710 MHz and 1755–1780 MHz band are subject to prior coordination requirements. See § 27.1134 (Protection of Federal Government operations).

[79 FR 32413, June 4, 2014]

## Subpart D—Competitive Bidding Procedures for the 2305–2320 MHz and 2345–2360 MHz Bands

### § 27.201 WCS in the 2305–2320 MHz and 2345–2360 MHz bands subject to competitive bidding.

Mutually exclusive initial applications for WCS licenses in the 2305–2320 MHz and 2345–2360 MHz bands are subject to competitive bidding. The general competitive bidding procedures set forth in part 1, subpart Q of this chapter will apply unless otherwise provided in this subpart.

[67 FR 45373, July 9, 2002]

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### §§ 27.202–27.208 [Reserved]

### § 27.209 Designated entities; bidding credits; unjust enrichment.

(a) Designated entities entitled to preferences in the WCS in the 2305–2320 and 2345–2360 bands auction are small businesses and very small businesses as defined in § 27.110(b). Designated entities will be eligible for bidding credits, as defined in paragraphs (b) and (c) of this section.

(b) A winning bidder that qualifies as a *small business* may use a bidding credit of 25 percent to lower the cost of its winning bid.

(c) A winning bidder that qualifies as a *very small business* may use a bidding credit of 35 percent to lower the cost of its winning bid.

[62 FR 9658, Mar. 3, 1997, as amended at 63 FR 2349, Jan. 15, 1998; 65 FR 57268, Sept. 21, 2000; 67 FR 45373, July 9, 2002]

### § 27.210 Definitions.

(a) *Scope*. The definitions in this section apply to § 27.209, unless otherwise specified in those sections.

(b) *Small and very small business*. (1) A *small business* is an entity that, together with its affiliates and controlling interests, has average annual gross revenues that are not more than \$40 million for the preceding three years.

(2) A *very small business* is an entity that, together with its affiliates and controlling interests, has average annual gross revenues that are not more than \$15 million for the preceding three years.

[67 FR 45373, July 9, 2002, as amended at 68 FR 43000, July 21, 2003]

## Subpart E—Application, Licensing, and Processing Rules for WCS

### § 27.301 [Reserved]

### § 27.302 Eligibility.

(a) General. Authorizations will be granted upon proper application if:

(1) The applicant is qualified under the applicable laws and the regulations, policies and decisions issued under those laws, including § 27.12;

(2) There are frequencies available to provide satisfactory service; and

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(3) The public interest, convenience or necessity would be served by a grant.

(b) Alien Ownership. A WCS authorization may not be granted to or held by an entity not meeting the requirements of section 310 of the Communications Act of 1934, as amended, 47 U.S.C. section 310 insofar as applicable to the particular service in question.

### § 27.303 Upper 700 MHz commercial and public safety coordination zone.

(a) *General*. CMRS operators are required, prior to commencing operations on fixed or base station transmitters on the 776–787 MHz band that are located within 500 meters of existing or planned public safety base station receivers, to submit a description of their proposed facility to a Commission-approved public safety coordinator.

(i) The frequency or frequencies on which the facility will operate;

(ii) Antenna location and height;

(iii) Type of emission;

(iv) Effective radiated power;

(v) A description of the area served and the operator's name.

(2) It is the CMRS operator's responsibility to determine whether referral is required for stations constructed in its area of license. Public safety base stations are considered "planned" when public safety operators have notified, or initiated coordination with, a Commission-approved public safety coordinator.

(b) CMRS operators must wait at least 10 business days after submission of the required description before commencing operations on the referenced facility, or implementing modifications to an existing facility.

(c) The potential for harmful interference between the CMRS and public safety facilities will be evaluated by the public safety coordinator.

(1) With regard to existing public safety facilities, the coordinator's determination to disapprove a proposed CMRS facility (or modification) to be located within 500 meters of the public safety facilities will be presumed correct, but the CMRS operator may seek Commission review of such determinations. Pending Commission review, the CMRS operator will not activate the

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facility or implement proposed modifications.

(2) With regard to proposed public safety facilities, the coordinator's determination to disapprove a proposed CMRS facility (or modification) to be located within 500 meters of the public safety facilities will be presumed correct, but the CMRS operator may seek Commission review and, pending completion of review, operate the facility during construction of the public safety facilities. If coordination or Commission review has not been completed when the public safety facilities are ready to operate, the CMRS operator must cease operations pending completion of coordination or Commission review. Such interim operation of the CMRS facility within the coordination zone (or implementation of modifications) will not be relied on by the Commission in its subsequent review and determination of measures necessary to control interference, including relocation or modification of the CMRS facility.

(d) If, in the event of harmful interference between facilities located within 500 meters proximity, the parties are unable, with the involvement of the coordinator, to resolve the problem by mutually satisfactory arrangements, the Commission may impose restrictions on the operations of any of the parties involved.

[67 FR 49245, July 30, 2002, as amended at 72 FR 48853, Aug. 24, 2007; 79 FR 599, Jan. 6, 2014]

**§ 27.304–27.307 [Reserved]****§ 27.308 Technical content of applications.**

All applications required by this part shall contain all technical information required by the application forms or associated public notice(s). Applications other than initial applications for a WCS license must also comply with all technical requirements of the rules governing the applicable frequency band (see subparts C, D, F, and G of this part, as appropriate).

[65 FR 57268, Sept. 21, 2000]

**§§ 27.310–27.320 [Reserved]****§ 27.321 Mutually exclusive applications.**

(a) Two or more pending applications are mutually exclusive if the grant of one application would effectively preclude the grant of one or more of the others under the Commission's rules governing the Wireless Communications Services involved. The Commission uses the general procedures in this section for processing mutually exclusive applications in the Wireless Communications Services.

(b) An application will be entitled to comparative consideration with one or more conflicting applications only if the Commission determines that such comparative consideration will serve the public interest.

**§§ 27.322–27.325 [Reserved]****Subpart F—Competitive Bidding Procedures for the 698–806 MHz Band**

SOURCE: 65 FR 3149, Jan. 20, 2000, unless otherwise noted.

**§ 27.501 746–758 MHz, 775–788 MHz, and 805–806 MHz bands subject to competitive bidding.**

Mutually exclusive initial applications for licenses in the 746–758 MHz, 775–788 MHz, and 805–806 MHz bands are subject to competitive bidding. The general competitive bidding procedures set forth in part 1, subpart Q of this chapter will apply unless otherwise provided in this subpart.

[79 FR 600, Jan. 6, 2014]

**§ 27.502 Designated entities.**

Eligibility for small business provisions:

(a)(1) A small business is an entity that, together with its controlling interests and affiliates, has average gross revenues not exceeding \$40 million for the preceding three years.

(2) A very small business is an entity that, together with its controlling interests and affiliates, has average gross revenues not exceeding \$15 million for the preceding three years.

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(b) *Bidding credits.* A winning bidder that qualifies as a small business or a consortium of small businesses as defined in this section may use the bidding credit specified in § 1.2110(f)(2)(iii) of this chapter. A winning bidder that qualifies as a very small business or a consortium of very small businesses as defined in this section may use the bidding credit specified in § 1.2110(f)(2)(ii) of this chapter.

[72 FR 63499, Nov. 9, 2007]

### Subpart G—Guard Band A and B Blocks (757-758/787-788 MHz and 775-776/805-806 MHz Bands)

SOURCE: 65 FR 17605, Apr. 4, 2000, unless otherwise noted.

#### § 27.601 Authority and coordination requirements.

(a) Subject to the provisions of § 27.2(b), a Guard Band licensee may allow a spectrum lessee, pursuant to a spectrum lease arrangement under part 1, subpart X of this chapter, to construct and operate stations at any available site within the licensed area and on any channel for which the Guard Band licensee is licensed, provided such stations comply with Commission Rules and coordination requirements.

(b) Subject to the provisions of § 27.2(b), a Guard Band licensee may allow a spectrum lessee, pursuant to a spectrum lease arrangement under part 1, subpart X of this chapter, to delete, move or change the operating parameters of any of the user's stations that are covered under the Guard Band licensee's authorization without prior Commission approval, provided such stations comply with Commission Rules and coordination requirements.

(c) *Frequency coordination.* (1) A Guard Band licensee, or a spectrum lessee operating at 775-776 MHz and 805-806 MHz pursuant to a spectrum lease arrangement under §§ 1.9030 and 1.9035 of this chapter, must notify Commission-recognized public safety frequency coordinators for the 700 MHz Public Safety band and adjacent-area Guard Band licensees within one business day

after the licensee or the spectrum lessee has:

(i) Coordinated a new station or modification of an existing station; or

(ii) Filed an application for an individual station license with the Commission.

(2) The notification required in paragraph (c)(1) of this section must include, at a minimum—

(i) The frequency or frequencies coordinated;

(ii) Antenna location and height;

(iii) Type of emission;

(iv) Effective radiated power;

(v) A description of the service area, date of coordination, and user name or, in the alternative, a description of the type of operation.

(3) In the event a licensee partitions its service area or disaggregates its spectrum, it is required to submit the notification required in paragraph (c)(1) of this section to other Guard Band licensees in the same geographic area.

(4) Entities coordinated by a Guard Band licensee, or a spectrum lessee operating pursuant to a spectrum lease arrangement under §§ 1.9030 and 1.9035 of this chapter, must wait at least 10 business days after the notification required in paragraph (c)(1) of this section before operating under the license.

(d) Where a deletion, move or change authorized under paragraph (b) of this section constitutes a discontinuance, reduction, or impairment of service under § 27.66 or where discontinuance, reduction or impairment of service results from an involuntary act subject to § 27.66(a), the licensee must comply with the notification and authorization requirements set forth in that section.

[72 FR 27712, May 16, 2007, as amended at 72 FR 48853, Aug. 24, 2007]

#### § 27.602 Lease agreements.

Guard Band licensees may enter into spectrum leasing arrangements under part 1, subpart X of this chapter regarding the use of their licensed spectrum by spectrum lessees, subject to the following conditions:

(a) The spectrum lease agreement between the licensee and the spectrum

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lessee must specify in detail the operating parameters of the spectrum lessee's system, including power, maximum antenna heights, frequencies of operation, base station location(s), area(s) of operation, and other parameters specified in Commission rules for the use of spectrum identified in § 27.5(b)(1) and (b)(2).

(b) The spectrum lease agreement must require the spectrum lessee to use Commission-approved equipment where appropriate and to complete post-construction proofs of system performance prior to system activation.

[72 FR 27713, May 16, 2007]

### § 27.604 Limitation on licenses won at auction.

(a) For the first auction of licenses in Blocks A and B, as defined in § 27.5, no applicant may be deemed the winning bidder of both a Block A and a Block B license in a single geographic service area.

(b) For purposes of paragraph (a) of this section, licenses will be deemed to be won by the same bidder if an entity that wins one license at the auction is an affiliate of any other entity that wins a license at the auction.

### § 27.607 Performance requirements and annual reporting requirement.

(a) Guard Band licensees are subject to the performance requirements specified in § 27.14(a).

(b) Guard Band licensees are required to file an annual report providing the Commission with information about the manner in which their spectrum is being utilized. Such reports shall be filed with the Commission on a calendar year basis, no later than the March 1 following the close of each calendar year, unless another filing date is specified by Public Notice.

(c) Guard Band licensees must, at a minimum, include the following information in their annual reports:

- (1) The total number of spectrum lessees;
- (2) The amount of the licensee's spectrum being used pursuant to spectrum lease agreements;
- (3) The nature of the spectrum use of the licensee's customers; and,
- (4) The length of term of each spectrum lease agreement, and whether the

agreement is a spectrum manager lease agreement, or a *de facto* transfer lease agreement.

(d) The specific information that licensees will provide and the procedures that they will follow in submitting their annual reports will be announced in a Public Notice issued by the Wireless Telecommunications Bureau.

[72 FR 27713, May 16, 2007]

### Subpart H—Competitive Bidding Procedures for the 698–746 MHz Band

SOURCE: 67 FR 5512, Feb. 6, 2002, unless otherwise noted.

#### § 27.701 698–746 MHz bands subject to competitive bidding.

Mutually exclusive initial applications for licenses in the 698–746 MHz band are subject to competitive bidding. The general competitive bidding procedures set forth in part 1, subpart Q of this chapter will apply unless otherwise provided in this subpart.

[67 FR 45374, July 9, 2002]

#### § 27.702 Designated entities.

(a) *Eligibility for small business provisions.* (1) An entrepreneur is an entity that, together with its controlling interests and affiliates, has average gross revenues not exceeding \$3 million for the preceding three years. This definition applies only with respect to licenses in Block C (710–716 MHz and 740–746 MHz) as specified in § 27.5(c)(1).

(2) A very small business is an entity that, together with its controlling interests and affiliates, has average gross revenues not exceeding \$15 million for the preceding three years.

(3) A small business is an entity that, together with its controlling interests and affiliates, has average gross revenues not exceeding \$40 million for the preceding three years.

(b) *Bidding credits.* A winning bidder that qualifies as an entrepreneur, as defined in this section, or a consortium of entrepreneurs may use the bidding credit specified in § 1.2110(f)(2)(i) of this chapter. A winning bidder that qualifies as a very small business, as defined in this section, or a consortium of very small businesses may use the bidding

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credit specified in § 1.2110(f)(2)(ii) of this chapter. A winning bidder that qualifies as a small business, as defined in this section, or a consortium of small businesses may use the bidding credit specified in § 1.2110(f)(2)(iii) of this chapter.

[67 FR 5512, Feb. 6, 2002, as amended at 68 FR 43000, July 21, 2003]

### Subpart I—1.4 GHz Band

SOURCE: 67 FR 41855, June 20, 2002, unless otherwise noted.

#### § 27.801 Scope.

This subpart sets out the regulations governing service in the paired 1392–1395 MHz and 1432–1435 MHz bands as well as the unpaired 1390–1392 MHz band (1.4 GHz band).

#### § 27.802 Permissible communications.

Licensees in the paired 1392–1395 MHz and 1432–1435 MHz bands and unpaired 1390–1392 MHz band are authorized to provide fixed or mobile service, except aeronautical mobile service, subject to the technical requirements of this subpart.

#### § 27.803 Coordination requirements.

(a) Licensees in the 1.4 GHz band will be issued geographic area licenses in accordance with the service areas listed in § 27.6(d) and (e).

(b) Licensees in the 1.4 GHz Service must file a separate station application with the Commission and obtain an individual station license, prior to construction or operation, of any station:

(1) That requires submission of an Environmental Assessment under part 1, § 1.1307 of this chapter;

(2) That requires international coordination;

(3) That operates in areas listed in part 1, § 1.924 of this chapter; or

(4) That requires approval of the Frequency Advisory Subcommittee (FAS) of the Interdepartment Radio Advisory Committee (IRAC). Licensees in the 1432–1435 MHz band must receive FAS approval, prior to operation of fixed sites or mobile units within the NTIA recommended protection radii of the Government sites listed in footnote US83 of § 2.106 of this chapter.

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(c) Prior to construction of a station, a licensee in the 1.4 GHz Band must register with the Commission any station antenna structure for which notification to the Federal Aviation Administration is required by part 17 of this chapter.

(d) It is the licensee's responsibility to determine whether an individual station needs referral to the Commission.

(e) The application required in paragraph (b) of this chapter must be filed on the Universal Licensing System.

[67 FR 41855, June 20, 2002, as amended at 69 FR 17958, Apr. 6, 2004; 80 FR 38908, July 7, 2015]

#### § 27.804 Field strength limits at WMTS facility.

For any operation in the 1392–1395 MHz band, the predicted or measured field strength—into the WMTS band at 1395–1400 MHz—shall not exceed 150 uV/m at the location of any registered WMTS healthcare facility. When performing measurements to determine compliance with this provision, measurement instrumentation employing an average detector and a resolution bandwidth of 1 MHz may be used, provided it accurately represents the true interference potential of the equipment.

#### § 27.805 Geographic partitioning and spectrum disaggregation.

An entity that acquires a portion of a 1.4 GHz band licensee's geographic area or spectrum subject to a geographic partitioning or spectrum disaggregation agreement under § 27.15 must function as a 1.4 GHz band licensee and is subject to the obligations and restrictions on the 1.4 GHz band license as set forth in this subpart.

#### § 27.806 1.4 GHz service licenses subject to competitive bidding.

Mutually exclusive initial applications for 1.4 GHz Band licenses in the paired 1392–1395 MHz and 1432–1435 MHz bands as well as the unpaired 1390–1392 MHz band are subject to competitive bidding. The general competitive bidding procedures set forth in part 1, subpart Q of this chapter will apply unless otherwise provided in this subpart.

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### § 27.807 Designated entities.

(a) Eligibility for small business provisions for 1.4 GHz band licenses in the paired 1392–1395 MHz and 1432–1435 MHz bands and the unpaired 1390–1392 MHz band.

(1) A very small business is an entity that, together with its controlling interests and affiliates, has average annual gross revenues not exceeding \$15 million for the preceding three years.

(2) A small business is an entity that, together with its controlling interests and affiliates, has average annual gross revenues not exceeding \$40 million for the preceding three years.

(b) *Bidding credits.* A winning bidder that qualifies as a very small business, as defined in this section, or a consortium of very small businesses may use the bidding credit specified in § 1.2110(f)(2)(ii) of this chapter. A winning bidder that qualifies as a small business, as defined in this section, or a consortium of small businesses may use the bidding credit specified in § 1.2110(f)(2)(iii) of this chapter.

[67 FR 41855, June 20, 2002, as amended at 68 FR 43000, July 21, 2003]

### Subpart J—1670–1675 MHz Band

SOURCE: 67 FR 41856, June 20, 2002, unless otherwise noted.

#### § 27.901 Scope.

This subpart sets out the regulations governing service in the 1670–1675 MHz band (1670–1675 MHz band).

#### § 27.902 Permissible communications.

Licensees in the 1670–1675 MHz band are authorized to provide fixed or mobile service, except aeronautical mobile service, subject to the technical requirements of this subpart.

#### § 27.903 Coordination requirements.

(a) The licensee in the 1670–1675 MHz band will be issued a geographic area license on a nationwide basis in accordance with § 27.6(f).

(b) Licensees in the 1670–1675 MHz band must file a separate station application with the Commission and obtain an individual station license, prior to construction or operation, of any station:

(1) That requires submission of an Environmental Assessment under part 1, § 1.1307 of this chapter;

(2) That requires international coordination;

(3) That operates in areas listed under part 1, § 1.924 of this chapter.

(c) The application required in paragraph (b) of this section must be filed on the Universal Licensing System.

(d) Prior to construction of a station, a licensee must register with the Commission any station antenna structure for which notification to the Federal Aviation Administration is required by part 17 of this chapter.

(e) It is the licensee's responsibility to determine whether an individual station requires referral to the Commission.

[67 FR 41856, June 20, 2002, as amended at 69 FR 17958, Apr. 6, 2004]

#### § 27.904 Geographic partitioning and spectrum disaggregation.

An entity that acquires a portion of a 1670–1675 MHz band licensee's geographic area or spectrum subject to a geographic partitioning or spectrum disaggregation agreement under § 27.15 must function as a 1670–1675 MHz licensee and is subject to the obligations and restrictions on the 1670–1675 MHz license as set forth in this subpart.

#### § 27.905 1670–1675 MHz service licenses subject to competitive bidding.

Mutually exclusive initial applications for the 1670–1675 MHz Band license are subject to competitive bidding. The general competitive bidding procedures set forth in part 1, subpart Q of this chapter will apply unless otherwise provided in this subpart.

#### § 27.906 Designated entities.

(a) *Eligibility for small business provisions.* (1) A very small business is an entity that, together with its controlling interests and affiliates, has average annual gross revenues not exceeding \$15 million for the preceding three years.

(2) A small business is an entity that, together with its controlling interests and affiliates, has average annual gross revenues not exceeding \$40 million for the preceding three years.

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(b) *Bidding credits.* A winning bidder that qualifies as a very small business, as defined in this section, or a consortium of very small businesses may use the bidding credit specified in § 1.2110(f)(2)(ii) of this chapter. A winning bidder that qualifies as a small business, as defined in this section, or a consortium of small businesses may use the bidding credit specified in § 1.2110(f)(2)(iii) of this chapter.

[67 FR 41856, June 20, 2002, as amended at 68 FR 43000, July 21, 2003]

## Subpart K—1915–1920 MHz and 1995–2000 MHz

SOURCE: 78 FR 50257, Aug. 16, 2013, unless otherwise noted.

### LICENSING AND COMPETITIVE BIDDING PROVISIONS

#### § 27.1001 1915–1920 MHz and 1995–2000 MHz bands subject to competitive bidding.

Mutually exclusive initial applications for 1915–1920 MHz and 1995–2000 MHz band licenses are subject to competitive bidding. The general competitive bidding procedures set forth in 47 CFR part 1, subpart Q will apply unless otherwise provided in this subpart.

#### § 27.1002 Designated entities in the 1915–1920 MHz and 1995–2000 MHz bands.

Eligibility for small business provisions:

(a)(1) A small business is an entity that, together with its affiliates, its controlling interests, and the affiliates of its controlling interests, has average gross revenues not exceeding \$40 million for the preceding three years.

(2) A very small business is an entity that, together with its affiliates, its controlling interests, and the affiliates of its controlling interests, has average gross revenues not exceeding \$15 million for the preceding three years.

(b) *Bidding credits.* A winning bidder that qualifies as a small business as defined in this section or a consortium of small businesses may use the bidding credit specified in § 1.2110(f)(2)(iii) of this chapter. A winning bidder that qualifies as a very small business as defined in this section or a consortium of

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very small businesses may use the bidding credit specified in § 1.2110(f)(2)(ii) of this chapter.

[78 FR 50257, Aug. 16, 2013, as amended at 80 FR 56816, Sept. 18, 2015]

### REIMBURSEMENT OBLIGATION OF LICENSEES AT 1915–1920 MHz AND 1995–2000 MHz

#### § 27.1021 Reimbursement obligation of licensees at 1915–1920 MHz.

A licensee in the 1915–1920 MHz band (Lower H Block) shall, within 30 days of grant of its long-form application, reimburse 25 percent of the total relocation costs incurred by UTAM, Inc. for relocating and clearing incumbent Fixed Microwave Service (FS) licensees from the 1910–1930 MHz band on a *pro rata* shared basis with other Lower H Block licensees as set forth in paragraphs (a) through (e) of this section.

(a)(1) If Lower H Block licenses granted as a result of the first auction for this spectrum cover, collectively, at least forty (40) percent of the nation's population, the amount owed to UTAM, Inc. by each individual Lower H Block licensee (reimbursement amount owed or RN) will be determined by dividing the gross winning bid (GWB) for each individual Lower H Block license (*i.e.*, an Economic Area (EA)) by the sum of the gross winning bids for all Lower H Block licenses for which there is a winning bid in the first auction, and then multiplying by \$12,629,857.

$$\text{RN} = (\text{EA GWB} + \text{Sum of GWBs}) \times \$12,629,857.00$$

(2) Except as provided in paragraphs (b) and (c) of this section, a licensee that obtains a license for a market in which no license is granted as a result of the first Lower H Block auction will not have a reimbursement obligation to UTAM, Inc.

(b) If Lower H Block licenses granted as a result of the first auction for this spectrum cover, collectively, less than forty (40) percent of the nation's population, then the pro rata amount that the licensee of an individual Lower H Block license must reimburse UTAM, Inc. shall be calculated by dividing the population of the individual EA by the total U.S. population, and then multiplying by \$12,629,857. In this event, the same population data, *e.g.*, 2010, used

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to calculate the RNs for Lower H Block licenses granted as a result of the first auction will apply to subsequent auctions of Lower H Block licenses that were not granted as a result of an earlier auction of Lower H Block licenses.

$$\text{RN} = (\text{EA POP} + \text{U.S. POP}) \times \$12,629,857.00$$

(c) A winning bidder of a Lower H Block license that is not granted a license for any reason will be deemed to have triggered a reimbursement obligation to UTAM, Inc. This obligation will be owed to UTAM, Inc. by the licensee acquiring the Lower H Block license through a subsequent auction. The amount owed by the licensee acquiring the Lower H Block license at such auction will be the RN calculated for the EA license based on the first auction (calculated under paragraphs (a) or (b), as applicable, of this section).

(d) For purposes of compliance with this section, licensees should determine population based on 2010 U.S. Census Data or such other data or measurements that the Wireless Telecommunications Bureau proposes and adopts under the notice and comment process for the auction procedures.

(e) A payment obligation owed by a Lower H Block licensees under this section shall be made within thirty (30) days of the grant of the license (*i.e.*, grant of the long form application).

**§ 27.1031 Reimbursement obligation of licensees at 1995–2000 MHz.**

A licensee in the 1995–2000 MHz band (Upper H Block) shall, within 30 days of grant of its long-form application, reimburse one-seventh of the eligible expenses incurred by Sprint Nextel, Inc. (Sprint) for relocating and clearing Broadcast Auxiliary Service (BAS), Cable Television Relay Service (CARS), and Local Television Transmission Service (LTTS) incumbents from the 1990–2025 MHz band, on a *pro rata* shared basis with other Upper H Block licensees as set forth in paragraphs (a) through (e) of this section.

(a)(1) If Upper H Block licenses granted as a result of the first auction for this spectrum cover, collectively, at least forty (40) percent of the nation's population, the amount owed to Sprint by the winning bidder of each individual Upper H Block license granted

as a result of the first auction will be determined by dividing the gross winning bid (GWB) for each individual Upper H Block license (*i.e.*, an Economic Area (EA)) by the sum of the gross winning bids for all Upper H Block licenses for which there is a winning bid in the first auction, and then multiplying by \$94,875,516.

$$\text{RN} = (\text{EA GWB} + \text{Sum of GWBs}) \times \$94,875,516$$

(2) Except as provided in paragraphs (b) and (c) of this section, a licensee that obtains a license for a market in which no license was granted as a result of the first Upper H Block auction will not have a reimbursement obligation to Sprint.

(b) If Upper H Block licenses granted as a result of the first auction for this spectrum cover, collectively, less than forty (40) percent of the nation's population, then the amount that the licensee of an individual Upper H Block license must reimburse Sprint shall be calculated by dividing the population of the individual EA by the total U.S. population, and then multiplying by \$94,875,516. In this event, the same population data, *e.g.*, 2010, used to calculate the RNs for Upper H Block licenses granted as a result of the first auction will apply to subsequent auctions of Upper H Block licenses that were not granted as a result of an earlier auction of Upper H Block licenses.

$$\text{RN} = (\text{EA POP} + \text{U.S. POP}) \times \$94,875,516$$

(c) A winning bidder of an Upper H Block license that is not granted a license for any reason will be deemed to have triggered a reimbursement obligation to Sprint. This obligation will be owed to Sprint by the licensee acquiring the Upper H Block license through a subsequent auction. The amount owed by the licensee acquiring the EA license at such auction will be based on the RN calculated for the EA license based on the first auction (calculated under paragraphs (a) or (b), as applicable, of this section).

(d) For purposes of compliance with this section, licensees should determine population based on 2010 U.S. Census Data or such other data or measurements that the Wireless Telecommunications Bureau proposes and

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adopts under the notice and comment process for the auction procedures.

(e) A payment obligation owed by a Upper H Block licensees under this section shall be made within thirty (30) days of the grant of the license (i.e., grant of the long form application).

### § 27.1041 Termination of cost-sharing obligations.

(a) The cost-sharing obligation adopted in this subpart for the Lower H Block and for the Upper H Block will sunset ten years after the first license is issued in the respective band.

(b) A Lower H Block licensee and an Upper H Block licensee must satisfy in full its payment obligations under this subpart K within thirty days of the grant of its long-form application. The failure to timely satisfy a payment obligation in full prior to the applicable sunset date will not terminate the debt owed or a party's right to collect the debt.

## Subpart L—1695–1710 MHz, 1710–1755 MHz, 1755–1780 MHz, 2110–2155 MHz, 2155–2180 MHz, 2180–2200 MHz Bands

SOURCE: 69 FR 5716, Feb. 6, 2004, unless otherwise noted.

### LICENSING AND COMPETITIVE BIDDING PROVISIONS

#### § 27.1101 1710–1755 MHz and 2110–2155 MHz bands subject to competitive bidding.

Mutually exclusive initial applications for 1710–1755 MHz and 2110–2155 MHz band licenses are subject to competitive bidding. The general competitive bidding procedures set forth in 47 CFR part 1, subpart Q will apply unless otherwise provided in this subpart.

#### § 27.1102 Designated Entities in the 1710–1755 MHz and 2110–2155 MHz bands.

(a) *Eligibility for small business provisions.* (1) A small business is an entity that, together with its affiliates, its controlling interests and the affiliates of its controlling interests, has average gross revenues that are not more than \$40 million for the preceding three years.

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(2) A very small business is an entity that, together with its affiliates, its controlling interests and the affiliates of its controlling interests, has average gross revenues that are not more than \$15 million for the preceding three years.

(b) *Bidding credits.* (1) A winning bidder that qualifies as a small business, as defined in this section, or a consortium of small businesses may use a bidding credit of 15 percent, as specified in § 1.2110(f)(2)(iii) of this chapter, to lower the cost of its winning bid on any of the licenses in this part.

(2) A winning bidder that qualifies as a very small business, as defined in this section, or a consortium of very small businesses may use a bidding credit of 25 percent, as specified in § 1.2110(f)(2)(ii) of this chapter, to lower the cost of its winning bid on any of the licenses in this part.

#### § 27.1103 2000–2020 MHz and 2180–2200 MHz bands subject to competitive bidding.

Mutually exclusive initial applications for 2000–2020 MHz and 2180–2200 MHz band licenses are subject to competitive bidding. The general competitive bidding procedures set forth in 47 CFR part 1, subpart Q will apply unless otherwise provided in this subpart.

[78 FR 8270, Feb. 5, 2013]

#### § 27.1104 Designated Entities in the 2000–2020 MHz and 2180–2200 MHz bands.

Eligibility for small business provisions:

(a) *Small business.* (1) A small business is an entity that, together with its affiliates, its controlling interests, and the affiliates of its controlling interests, has average gross revenues not exceeding \$40 million for the preceding three years.

(2) A very small business is an entity that, together with its affiliates, its controlling interests, and the affiliates of its controlling interests, has average gross revenues not exceeding \$15 million for the preceding three years.

(b) *Bidding credits.* A winning bidder that qualifies as a small business as defined in this section or a consortium of small businesses may use the bidding credit specified in § 1.2110(f)(2)(iii) of

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this chapter. A winning bidder that qualifies as a very small business as defined in this section or a consortium of very small businesses may use the bidding credit specified in §1.2110(f)(2)(ii) of this chapter.

[78 FR 8270, Feb. 5, 2013, as amended at 80 FR 56816, Sept. 18, 2015]

### **§ 27.1105 1695–1710 MHz, 1755–1780 MHz and 2155–2180 MHz bands subject to competitive bidding.**

Mutually exclusive initial applications for 1695–1710 MHz, 1755–1780 MHz, and 2155–2180 MHz band licenses are subject to competitive bidding. The general competitive bidding procedures set forth in 47 CFR part 1, subpart Q will apply unless otherwise provided in this subpart.

[79 FR 32413, June 4, 2014]

### **§ 27.1106 Designated Entities in the 1695–1710 MHz, 1755–1780 MHz, and 2155–2180 MHz bands.**

Eligibility for small business provisions:

(a) *Small business.* (1) A small business is an entity that, together with its affiliates, its controlling interests, and the affiliates of its controlling interests, has average gross revenues not exceeding \$40 million for the preceding three (3) years.

(2) A very small business is an entity that, together with its affiliates, its controlling interests, and the affiliates of its controlling interests, has average gross revenues not exceeding \$15 million for the preceding three (3) years.

(b) *Bidding credits.* A winning bidder that qualifies as a small business as defined in this section or a consortium of small businesses may use the bidding credit specified in §1.2110(f)(2)(iii) of this chapter. A winning bidder that qualifies as a very small business as defined in this section or a consortium of very small businesses may use the bidding credit specified in §1.2110(f)(2)(ii) of this chapter.

[79 FR 32413, June 4, 2014, as amended at 80 FR 56816, Sept. 18, 2015]

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### RELOCATION OF INCUMBENTS

#### **§ 27.1111 Relocation of fixed microwave service licensees in the 2110–2150 and 2160–2200 MHz bands.**

Part 22, subpart E and part 101, subpart B of this chapter contain provisions governing the relocation of incumbent fixed microwave service licensees in the 2110–2150 MHz and 2160–2200 MHz bands.

[79 FR 32414, June 4, 2014]

### PROTECTION OF INCUMBENT OPERATIONS

#### **§ 27.1131 Protection of part 101 operations.**

All AWS licensees, prior to initiating operations from any base or fixed station, must coordinate their frequency usage with co-channel and adjacent-channel incumbent, 47 CFR part 101 fixed-point-to-point microwave licensees operating in the 2110–2150 MHz and 2160–2200 MHz bands. Coordination shall be conducted in accordance with the provisions of §24.237 of this chapter.

[79 FR 32414, June 4, 2014]

#### **§ 27.1132 Protection of incumbent operations in the 2150–2160/62 MHz band.**

All AWS licensees, prior to initiating operations from any base or fixed station in the 2110–2180 MHz band, shall follow the provisions of §27.1255.

[79 FR 32414, June 4, 2014]

#### **§ 27.1133 Protection of part 74 and part 78 operations.**

AWS operators must protect previously licensed Broadcast Auxiliary Service (BAS) or Cable Television Radio Service (CARS) operations in the adjacent 2025–2110 MHz band. In satisfying this requirement AWS licensees must, before constructing and operating any base or fixed station, determine the location and licensee of all BAS or CARS stations authorized in their area of operation, and coordinate their planned stations with those licensees. In the event that mutually satisfactory coordination agreements cannot be reached, licensees may seek the assistance of the Commission, and the Commission may, at its discretion,

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impose requirements on one or both parties.

**§ 27.1134 Protection of Federal Government operations.**

(a) *Protection of Department of Defense operations in the 1710–1755 MHz band.* The Department of Defense (DoD) operates communications systems in the 1710–1755 MHz band at 16 protected facilities, nationwide. AWS licensees must accept any interference received from these facilities and must protect the facilities from interference. AWS licensees shall protect the facilities from interference by restricting the operation of their base and fixed stations from any locations that could potentially permit AWS mobile, fixed, and portable stations transmitting in the 1710–1755 MHz band to cause interference to government operations within the radii of operation of the 16 facilities (the radii of operation of each facility is indicated in the third column of Table 1 immediately following paragraph (a)(3) of this section). In addition, AWS licensees shall be required to coordinate any operations that could permit mobile, fixed, and portable stations to operate in the specified areas of the 16 facilities, as defined in paragraph (a)(3) of this section. Protection of these facilities in this manner shall take place under the following conditions:

(1) At the Yuma, Arizona and Cherry Point, North Carolina facilities, all op-

erations shall be protected indefinitely.

(2) At the remaining 14 facilities, airborne and military test range operations shall be protected until such time as these systems are relocated to other spectrum, and precision guided munitions (PGM) operations shall be protected until such time as these systems are relocated to other spectrum or until PGM inventory at each facility is exhausted, whichever occurs first.

(3) AWS licensees whose transmit operations in the 1710–1755 MHz band consist of fixed or mobile operations with nominal transmit EIRP values of 100 mW or less and antenna heights of 1.6 meters above ground or less shall coordinate their services around the 16 sites at the distance specified in row a. of Table 2. AWS licensees whose transmit operations in the 1710–1755 MHz band consist of fixed or mobile operations with nominal transmit EIRP values of 1 W or less and antenna heights of 10 meters above ground or less shall coordinate their services around the 16 sites at the distance specified in row b. of Table 2. These coordination distances shall be measured from the edge of the operational distances indicated in the third column of Table 1, and coordination with each affected DoD facility shall be accomplished through the Commander of the facility.

TABLE 1—PROTECTED DEPARTMENT OF DEFENSE FACILITIES

Location	Coordinates	Radius of operation (km)
Cherry Point, NC .....	34°58' N, 076°56' W	100
Yuma, AZ .....	32°32' N, 113°58' W	120
China Lake, CA .....	35°41' N, 117°41' W	120
Eglin AFB, FL .....	30°29' N, 086°31' W	120
Pacific Missile Test Range/Point Mugu, CA .....	34°07' N, 119°30' W	80
Nellis AFB, NV .....	36°14' N, 115°02' W	160
Hill AFB, UT .....	41°07' N, 111°58' W	160
Patuxent River, MD .....	38°17' N, 076°25' W	80
White Sands Missile Range, NM .....	33°00' N, 106°30' W	80
Fort Irwin, CA .....	35°16' N, 116°41' W	50
Fort Rucker, AL .....	31°13' N, 085°49' W	50
Fort Bragg, NC .....	35°09' N, 079°01' W	50
Fort Campbell, KY .....	36°41' N, 087°28' W	50
Fort Lewis, WA .....	47°05' N, 122°36' W	50
Fort Benning, GA .....	32°22' N, 084°56' W	50
Fort Stewart, GA .....	31°52' N, 081°37' W	50

TABLE 2—COORDINATION DISTANCES FOR THE PROTECTED DEPARTMENT OF DEFENSE FACILITIES

1710–1755 MHz transmit operations	Coordination distance (km)
a. EIRP ≤100 mW, antenna height ≤1.6 m AG .....	35
b. EIRP ≤1 W, antenna height ≤10 m AG .....	55

(b) *Protection of non-DoD operations in the 1710–1755 MHz and 1755–1761 MHz bands.* Until such time as non-DoD systems operating in the 1710–1755 MHz and 1755–1761 MHz bands are relocated to other spectrum, AWS licensees shall protect such systems by satisfying the appropriate provisions of TIA Telecommunications Systems Bulletin 10-F, “Interference Criteria for Microwave Systems,” May, 1994 (TSB 10-F).

(c) *Protection of Federal operations in the 1675–1710 MHz band—(1) 27 Protection Zones.* Within 27 Protection Zones, prior to operating a base station that enables mobile or portable stations to transmit in the 1695–1710 MHz band, licensees must successfully coordinate such base station operations with Federal Government entities operating meteorological satellite Earth-station receivers in the 1675–1710 MHz band. See 47 CFR 2.106, footnote US 88, for the 27 Protection Zones and other details.

(2) *Operation outside of 27 Protection Zones.* Non-Federal operations, for mobile and portable stations operating at a maximum EIRP of 20 dBm, are permitted outside of the protection zones without coordination. All non-Federal operations for mobile and portables operating at a maximum EIRP of greater than 20 dBm and up to 30 dBm must be coordinated nationwide. All such operations may not cause harmful interference to the Federal operations protected in 47 CFR 2.106, footnote US 88.

(3) *Interference.* If protected Federal operations receive harmful interference from AWS operations in the 1695–1710 MHz band, an AWS licensee must, upon notification, modify its operations and/or technical parameters as necessary to eliminate the interference.

(4) *Point of contact.* AWS licensees in the 1695–1710 MHz band must provide and maintain a point of contact at all times so that immediate contact can

be made should interference against protected Federal sites occur.

(5) *Coordination procedures.* Federal use of the radio spectrum is generally governed by the National Telecommunications and Information Administration (NTIA) while non-Federal use is governed by the Commission. As such, any guidance or details concerning Federal/non-Federal coordination must be issued jointly by NTIA and the Commission. The Commission may jointly issue with NTIA one or more public notices with guidance or details concerning the coordination procedures for the 1695–1710 MHz band.

(6) *Requirements for licensees operating in the 1710–1755 MHz band.* AWS licensees operating fixed stations in the 1710–1755 MHz band, if notified that such stations are causing interference to radiosonde receivers operating in the Meteorological Aids Service in the 1675–1700 MHz band or a meteorological-satellite earth receiver operating in the Meteorological-Satellite Service in the 1675–1710 MHz band, shall be required to modify the stations' location and/or technical parameters as necessary to eliminate the interference.

(d) *Recognition of NASA Goldstone facility operations in the 2110–2120 MHz band.* The National Aeronautics and Space Administration (NASA) operates the Deep Space Network (DSN) in the 2110–2120 MHz band at Goldstone, California (see Table 3). NASA will continue its operations of high power transmitters (nominal EIRP of 105.5 dBW with EIRP up to 119.5 dBW used under emergency conditions) in this band at this location. AWS licensees must accept any interference received from the Goldstone DSN facility in this band.

TABLE 3—LOCATION OF THE NASA GOLDSTONE DEEP SPACE FACILITY

Location	Coordinates	Maximum transmitter output power
Goldstone, California .....	35°18' N 116°54' W	500 kW

(e) *Protection of Federal operations in the 2200–2290 MHz band*—(1) *Default emission limits*. Except as provided in paragraph (e)(2) of this section, the following default out-of-band emissions limits shall apply for AWS-4 operations in the 2180–2200 MHz band.

(i) For these AWS-4 operations, the power of any emissions on all frequencies between 2200 and 2290 MHz shall not exceed an EIRP of  $-100.6 \text{ dBW/4 kHz}$ .

(ii) No AWS-4 base station operating in the 2180–2200 MHz band shall be located less than 820 meters from a U.S. Earth Station facility operating in the 2200–2290 MHz band.

(2) *Agreements between AWS-4 operators and Federal government entities*. The out-of-band emissions limits in paragraph (e)(1) of this section may be modified by the private contractual agreement of licensees of AWS-4 operating authority and Federal government entities operating in the 2200–2290 MHz band. Such agreement shall be transmitted to the Commission by the National Telecommunications and Information Administration (NTIA) of the U.S. Department of Commerce. A licensee of AWS-4 operating authority who is a party to such an agreement must maintain a copy of the agreement in its station files and disclose it, upon request, to prospective AWS-4 assignees, transferees, or spectrum lessees, to Federal operators, and to the Commission.

(f) *Protection of Federal operations in the 1755–1780 MHz band*. The Federal Government operates communications systems in the 1755–1780 MHz band. Certain systems are expected to continue to operate in the band indefinitely. All other operations will be relocating to other frequencies or otherwise cease operations in the 1755–1780 MHz band in accordance with 47 CFR part 301. Until such a time as Federal operations in the 1755–1780 MHz bands vacate this spectrum, AWS licensees shall protect

such systems and must accept any interference received from these Federal operations. See 47 CFR 2.106, footnote US 91, for details. AWS licensees must successfully coordinate proposed operations with all Federal incumbents prior to operation as follows:

(1) *Protection Zone(s)*. A protection zone is established for each Federal operation pursuant to 47 CFR 2.106, footnote US 91. Unless otherwise specified in later Commission actions, the default protection zone is nationwide. A base station which enables mobile or portable stations to transmit in the 1755–1780 MHz band may not operate within the Protection Zone(s) of a Federal operation until the licensee successfully coordinates such base station operations with Federal Government entities as follows depending on the type of Federal incumbent authorization:

(i) *Federal US&P Assignments*. Each AWS licensee must coordinate with each Federal agency that has U.S. and Possessions (US&P) authority prior to its first operations in its licensed area to reach a coordination arrangement with each US&P agency on an operator-to-operator basis. (Agencies with U.S. and Possessions (US&P) authority do not operate nationwide and may be able to share, prior to relocation, in some areas.)

(ii) *Other Federal Assignments*. Each AWS licensee must successfully coordinate all base station operations within a Protection Zone with the Federal incumbents. The default requirement is a nationwide coordination zone with possible revisions to the Protection Zone and other details to be announced in a Joint FCC/NTIA public notice.

(2) *Interference*. If protected Federal operations receive harmful interference from AWS operations in the 1755–1780 MHz band, an AWS licensee must, upon notification, modify its operations and/or technical parameters as

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necessary to eliminate the interference.

(3) *Point of contact.* AWS licensees in the 1755–1780 MHz band must provide and maintain a point of contact at all times so that immediate contact can be made should interference against protected Federal operations occur.

(4) *Coordination procedures.* Federal use of the radio spectrum is generally governed by the National Telecommunications and Information Administration (NTIA) while non-Federal use is governed by the Commission. As such, any guidance or details concerning Federal/non-Federal coordination must be issued jointly by NTIA and the Commission. The Commission may jointly issue with NTIA one or more public notices with guidance or details concerning the coordination procedures for the 1755–1780 MHz band.

[69 FR 5716, Feb. 6, 2004, as amended at 73 FR 50571, Aug. 27, 2008; 78 FR 8270, Jan. 5, 2013; 79 FR 32414, June 4, 2014]

**§ 27.1135 Protection of non-Federal Government Meteorological-Satellite operations.**

AWS licensees operating fixed stations in the 1710–1755 MHz band, if notified that such stations are causing interference to meteorological-satellite earth receivers operating in the Meteorological-Satellite Service in the 1675–1710 MHz band, shall be required to modify the stations' location and/or technical parameters as necessary to eliminate the interference.

**§ 27.1136 Protection of mobile satellite services in the 2000–2020 MHz and 2180–2200 MHz bands.**

An AWS licensee of the 2000–2020 MHz and 2180–2200 MHz bands must accept any interference received from duly authorized mobile satellite service operations in these bands. Any such AWS licensees must protect mobile satellite service operations in these bands from harmful interference.

[78 FR 8270, Jan. 5, 2013]

**COST-SHARING POLICIES GOVERNING MICROWAVE RELOCATION FROM THE 2110–2150 MHZ AND 2160–2200 MHZ BANDS**

SOURCE: Sections 27.1160 through 27.1174 appear at 71 FR 29835, May 24, 2006, unless otherwise noted.

**§ 27.1160 Cost-sharing requirements for AWS.**

Frequencies in the 2110–2150 MHz and 2160–2200 MHz bands listed in § 101.147 of this chapter have been reallocated from Fixed Microwave Services (FMS) to use by AWS (as reflected in § 2.106 of this chapter). In accordance with procedures specified in § 22.602 and §§ 101.69 through 101.82 of this chapter, AWS entities are required to relocate the existing microwave licensees in these bands if interference to the existing microwave licensee would occur. All AWS entities that benefit from the clearance of this spectrum by other AWS entities or by a voluntarily relocating microwave incumbent must contribute to such relocation costs. AWS entities may satisfy their reimbursement requirement by entering into private cost-sharing agreements or agreeing to terms other than those specified in § 27.1164. However, AWS entities are required to reimburse other AWS entities or voluntarily relocating microwave incumbents that incur relocation costs and are not parties to the alternative agreement. In addition, parties to a private cost-sharing agreement may seek reimbursement through the clearinghouse (as discussed in § 27.1162) from AWS entities or other Emerging Technologies (ET) entities, including Mobile Satellite Service (MSS) operators (for Ancillary Terrestrial Component (ATC) base stations), that are not parties to the agreement. The cost-sharing plan is in effect during all phases of microwave relocation specified in §§ 22.602 and 101.69 of this chapter. If an AWS licensee enters into a spectrum leasing arrangement (as set forth in part 1, subpart X of this chapter) and the spectrum lessee triggers a cost-sharing obligation, the licensee is

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the AWS entity responsible for satisfying the cost-sharing obligations under §§ 27.1160–27.1174.

[71 FR 29835, May 24, 2006, as amended at 78 FR 8270, Feb. 5, 2013]

### § 27.1162 Administration of the Cost-Sharing Plan.

The Wireless Telecommunications Bureau, under delegated authority, will select one or more entities to operate as a neutral, not-for-profit clearinghouse(s). This clearinghouse(s) will administer the cost-sharing plan by, *inter alia*, determining the cost-sharing obligation of AWS and other ET entities

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for the relocation of FMS incumbents from the 2110–2150 MHz and 2160–2200 MHz bands. The clearinghouse filing requirements (see §§ 27.1166(a), 27.1170) will not take effect until an administrator is selected.

### § 27.1164 The cost-sharing formula.

An AWS relocator who relocates an interfering microwave link, *i.e.*, one that is in all or part of its market area and in all or part of its frequency band or a voluntarily relocating microwave incumbent, is entitled to *pro rata* reimbursement based on the following formula:

$$R_N = \frac{C}{N} \times \frac{[120 - (T_m)]}{120}$$

(a)  $R_N$  equals the amount of reimbursement.

(b)  $C$  equals the actual cost of relocating the link(s). Actual relocation costs include, but are not limited to, such items as: Radio terminal equipment (TX and/or RX—antenna, necessary feed lines, MUX/Modems); towers and/or modifications; back-up power equipment; monitoring or control equipment; engineering costs (design/path survey); installation; systems testing; FCC filing costs; site acquisition and civil works; zoning costs; training; disposal of old equipment; test equipment (vendor required); spare equipment; project management; prior coordination notification under § 101.103(d) of this chapter; site lease renegotiation; required antenna upgrades for interference control; power plant upgrade (if required); electrical grounding systems; Heating Ventilation and Air Conditioning (HVAC) (if required); alternate transport equipment; and leased facilities. Increased recurring costs represent part of the actual cost of relocation and, even if the compensation to the incumbent is in the form of a commitment to pay five years of charges, the AWS or MSS/ATC relocator is entitled to seek immediate reimbursement of the lump sum

amount based on present value using current interest rates, provided it has entered into a legally binding agreement to pay the charges.  $C$  also includes voluntarily relocating microwave incumbent's independent third party appraisal of its compensable relocation costs and incumbent transaction expenses that are directly attributable to the relocation, subject to a cap of two percent of the "hard" costs involved. Hard costs are defined as the actual costs associated with providing a replacement system, such as equipment and engineering expenses.  $C$  may not exceed \$250,000 per paired link, with an additional \$150,000 permitted if a new or modified tower is required.

(c)  $N$  equals the number of AWS and MSS/ATC entities that have triggered a cost-sharing obligation. For the AWS relocator,  $N = 1$ . For the next AWS entity triggering a cost-sharing obligation,  $N = 2$ , and so on. In the case of a voluntarily relocating microwave incumbent,  $N = 1$  for the first AWS entity triggering a cost-sharing obligation. For the next AWS or MSS/ATC entity triggering a cost-sharing obligation,  $N = 2$ , and so on.

(d)  $T_m$  equals the number of months that have elapsed between the month

the AWS or MSS/ATC relocator or voluntarily relocating microwave incumbent obtains reimbursement rights for the link and the month in which an AWS entity triggers a cost-sharing obligation. An AWS or MSS/ATC relocator obtains reimbursement rights for the link on the date that it signs a relocation agreement with a microwave incumbent. A voluntarily relocating microwave incumbent obtains reimbursement rights for the link on the date that the incumbent notifies the Commission that it intends to discontinue, or has discontinued, the use of the link, pursuant to § 101.305 of the Commission's rules.

**§ 27.1166 Reimbursement under the Cost-Sharing Plan.**

(a) *Registration of reimbursement rights.* Claims for reimbursement under the cost-sharing plan are limited to relocation expenses incurred on or after the date when the first AWS license is issued in the relevant AWS band (start date). If a clearinghouse is not selected by that date (see § 27.1162) claims for reimbursement (see § 27.1166) and notices of operation (see § 27.1170) for activities that occurred after the start date but prior to the clearinghouse selection must be submitted to the clearinghouse within 30 calendar days of the selection date.

(1) To obtain reimbursement, an AWS relocator must submit documentation of the relocation agreement to the clearinghouse within 30 calendar days of the date a relocation agreement is signed with an incumbent. In the case of involuntary relocation, an AWS relocator must submit documentation of the relocated system within 30 calendar days after the end of the relocation.

(2) To obtain reimbursement, a voluntarily relocating microwave incumbent must submit documentation of the relocation of the link to the clearinghouse within 30 calendar days of the date that the incumbent notifies the Commission that it intends to discontinue, or has discontinued, the use of the link, pursuant to § 101.305 of the Commission's rules.

(b) *Documentation of expenses.* Once relocation occurs, the AWS relocator, or the voluntarily relocating micro-

wave incumbent, must submit documentation itemizing the amount spent for items specifically listed in § 27.1164(b), as well as any reimbursable items not specifically listed in § 27.1164(b) that are directly attributable to actual relocation costs. Specifically, the AWS relocator, or the voluntarily relocating microwave incumbent must submit, in the first instance, only the uniform cost data requested by the clearinghouse along with a copy, without redaction, of either the relocation agreement, if any, or the third party appraisal described in (b)(1) of this section, if relocation was undertaken by the microwave incumbent. AWS relocators and voluntarily relocating microwave incumbents must maintain documentation of cost-related issues until the applicable sunset date and provide such documentation upon request, to the clearinghouse, the Commission, or entrants that trigger a cost-sharing obligation. If an AWS relocator pays a microwave incumbent a monetary sum to relocate its own facilities, the AWS relocator must estimate the costs associated with relocating the incumbent by itemizing the anticipated cost for items listed in § 27.1164(b). If the sum paid to the incumbent cannot be accounted for, the remaining amount is not eligible for reimbursement.

(1) *Third party appraisal.* The voluntarily relocating microwave incumbent, must also submit an independent third party appraisal of its compensable relocation costs. The appraisal should be based on the actual cost of replacing the incumbent's system with comparable facilities and should exclude the cost of any equipment upgrades or items outside the scope of § 27.1164(b).

(2) *Identification of links.* The AWS relocator or the voluntarily relocating microwave incumbent must identify the particular link associated with appropriate expenses (i.e., costs may not be averaged over numerous links). Where the AWS relocator or voluntarily relocating microwave incumbent relocates both paths of a paired channel microwave link (e.g., 2110-2130 MHz with 2160-2180 MHz and 2130-2150 MHz with 2180-2200 MHz), the AWS relocator or voluntarily relocating microwave

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incumbent must identify the expenses associated with each paired microwave link.

(c) *Full Reimbursement.* An AWS relocator who relocates a microwave link that is either fully outside its market area or its licensed frequency band may seek full reimbursement through the clearinghouse of compensable costs, up to the reimbursement cap as defined in § 27.1164(b). Such reimbursement will not be subject to depreciation under the cost-sharing formula.

(d) *Good Faith Requirement.* New entrants and incumbent licensees are expected to act in good faith in satisfying the cost-sharing obligations under §§ 27.1160 through 27.1174. The requirement to act in good faith extends to, but is not limited to, the preparation and submission of the documentation required in paragraph (b) of this section.

(e) *MSS Participation in the Clearinghouse.* MSS operators are not required to submit reimbursements to the clearinghouse for links relocated due to interference from MSS space-to-Earth downlink operations, but may elect to do so, in which case the MSS operator must identify the reimbursement claim as such and follow the applicable procedures governing reimbursement in part 27. MSS reimbursement rights and cost-sharing obligations for space-to-Earth downlink operations are governed by § 101.82 of this chapter.

(f) *Reimbursement for Self-relocating FMS links in the 2130–2150 MHz and 2180–2200 MHz bands.* Where a voluntarily relocating microwave incumbent relocates a paired microwave link with paths in the 2130–2150 MHz and 2180–2200 MHz bands, it may not seek reimbursement from MSS operators, but is entitled to reimbursement from the first AWS beneficiary for its actual costs for relocating the paired link, subject to the reimbursement cap in § 27.1164(b). This amount is subject to depreciation as specified in § 27.1164(b). An AWS licensee who is obligated to reimburse relocation costs under this rule is enti-

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tled to obtain reimbursement from other AWS beneficiaries in accordance with §§ 27.1164 and 27.1168. For purposes of applying the cost-sharing formula relative to other AWS licensees that benefit from the self-relocation, depreciation shall run from the date on which the clearinghouse issues the notice of an obligation to reimburse the voluntarily relocating microwave incumbent.

[71 FR 29835, May 24, 2006, as amended at 78 FR 8270, Jan. 5, 2013]

### § 27.1168 Triggering a Reimbursement Obligation.

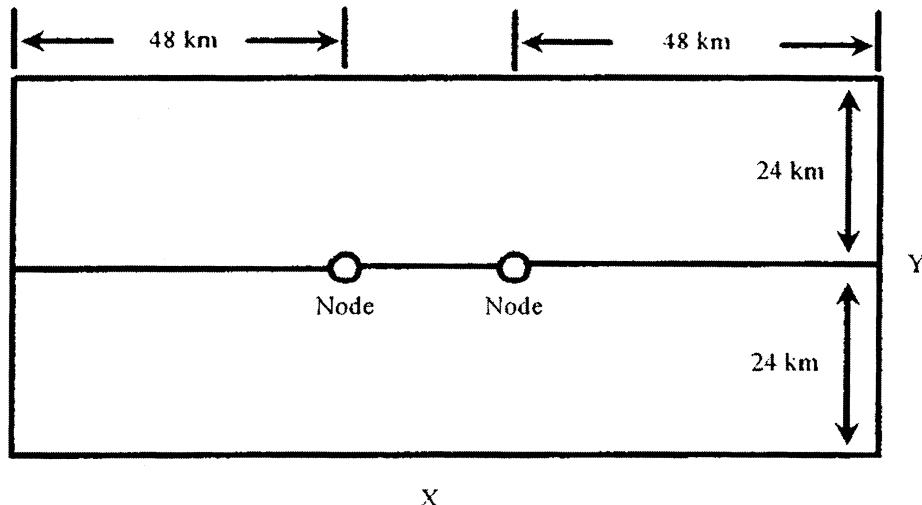
(a) The clearinghouse will apply the following test to determine when an AWS entity has triggered a cost-sharing obligation and therefore must pay an AWS relocator, MSS relocator, or a voluntarily relocating microwave incumbent in accordance with the formula detailed in § 27.1164:

(1) All or part of the relocated microwave link was initially co-channel with the licensed AWS band(s) of the AWS entity or the selected assignment of the MSS operator that seeks and obtains ATC authority (see § 25.149(a)(2)(i) of this chapter);

(2) An AWS relocator, MSS relocator or a voluntarily relocating microwave incumbent has paid the relocation costs of the microwave incumbent; and

(3) The AWS or MSS entity is operating or preparing to turn on a fixed base station at commercial power and the fixed base station is located within a rectangle (Proximity Threshold) described as follows:

(i) The length of the rectangle shall be  $x$  where  $x$  is a line extending through both nodes of the microwave link to a distance of 48 kilometers (30 miles) beyond each node. The width of the rectangle shall be  $y$  where  $y$  is a line perpendicular to  $x$  and extending for a distance of 24 kilometers (15 miles) on both sides of  $x$ . Thus, the rectangle is represented as follows:



(ii) If the application of the Proximity Threshold Test indicates that a reimbursement obligation exists, the clearinghouse will calculate the reimbursement amount in accordance with the cost-sharing formula and notify the AWS entity of the total amount of its reimbursement obligation.

(b) Once a reimbursement obligation is triggered, the AWS entity may not avoid paying its cost-sharing obligation by deconstructing or modifying its facilities.

[71 FR 29835, May 24, 2006, as amended at 78 FR 8271, Jan. 5, 2013]

#### § 27.1170 Payment issues.

Prior to initiating operations for a newly constructed site or modified existing site, an AWS entity is required to file a notice containing site-specific data with the clearinghouse. The notice regarding the new or modified site must provide a detailed description of the proposed site's spectral frequency use and geographic location, including but not limited to the applicant's name and address, the name of the transmitting base station, the geographic coordinates corresponding to that base station, the frequencies and polarizations to be added, changed or deleted, and the emission designator. If a prior coordination notice (PCN) under

§ 101.103(d) of this chapter is prepared, AWS entities can satisfy the site-data filing requirement by submitting a copy of their PCN to the clearinghouse. AWS entities that file either a notice or a PCN have a continuing duty to maintain the accuracy of the site-specific data on file with the clearinghouse. Utilizing the site-specific data, the clearinghouse will determine if any reimbursement obligation exists and notify the AWS entity in writing of its repayment obligation, if any. When the AWS entity receives a written copy of such obligation, it must pay directly to the relocator the amount owed within 30 calendar days.

[78 FR 8271, Jan. 5, 2013]

#### § 27.1172 Dispute Resolution Under the Cost-Sharing Plan.

(a) Disputes arising out of the cost-sharing plan, such as disputes over the amount of reimbursement required, must be brought, in the first instance, to the clearinghouse for resolution. To the extent that disputes cannot be resolved by the clearinghouse, parties are encouraged to use expedited Alternative Dispute Resolution (ADR) procedures, such as binding arbitration, mediation, or other ADR techniques.

(b) *Evidentiary requirement.* Parties of interest contesting the clearinghouse's

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determination of specific cost-sharing obligations must provide evidentiary support to demonstrate that their calculation is reasonable and made in good faith. Specifically, these parties are expected to exercise due diligence to obtain the information necessary to prepare an independent estimate of the relocation costs in question and to file the independent estimate and supporting documentation with the clearinghouse.

**§ 27.1174 Termination of cost-sharing obligations.**

The cost-sharing plan will sunset for all AWS and MSS entities on the same date on which the relocation obligation for the subject AWS band (*i.e.*, 2110–2150 MHz, 2160–2175 MHz, 2175–2180 MHz, 2180–2200 MHz) in which the relocated FMS link was located terminates. AWS or MSS entrants that trigger a cost-sharing obligation prior to the sunset date must satisfy their payment obligation in full.

[78 FR 8271, Feb. 5, 2013]

**COST-SHARING POLICIES GOVERNING BROADBAND RADIO SERVICE RELOCATION FROM THE 2150–2160/62 MHz BAND**

SOURCE: Sections 27.1176 through 27.1190 appear at 71 FR 29835, May 24, 2006, unless otherwise noted.

**§ 27.1176 Cost-sharing requirements for AWS in the 2150–2160/62 MHz band.**

(a) Frequencies in the 2150–2160/62 MHz band have been reallocated from the Broadband Radio Service (BRS) to AWS. All AWS entities who benefit from another AWS entity's clearance of BRS incumbents from this spectrum, including BRS incumbents occupying the 2150–2162 MHz band on a primary basis, must contribute to such relocation costs. Only AWS entrants that relocate BRS incumbents are entitled to such reimbursement.

(b) AWS entities may satisfy their reimbursement requirement by entering into private cost-sharing agreements or agreeing to terms other than those specified in § 27.1180. However, AWS entities are required to reimburse other AWS entities that incur relocation

costs and are not parties to the alternative agreement. In addition, parties to a private cost-sharing agreement may seek reimbursement through the clearinghouse (as discussed in § 27.1178) from AWS entities that are not parties to the agreement. The cost-sharing plan is in effect during all phases of BRS relocation until the end of the period specified in § 27.1190. If an AWS licensee enters into a spectrum leasing arrangement and the spectrum lessee triggers a cost-sharing obligation, the licensee is the AWS entity responsible for satisfying cost-sharing obligations under these rules.

**§ 27.1178 Administration of the Cost-Sharing Plan.**

The Wireless Telecommunications Bureau, under delegated authority, will select one or more entities to operate as a neutral, not-for-profit clearinghouse(s). This clearinghouse(s) will administer the cost-sharing plan by, *inter alia*, determining the cost-sharing obligations of AWS entities for the relocation of BRS incumbents from the 2150–2162 MHz band. The clearinghouse filing requirements (see §§ 27.1182(a), 27.1186) will not take effect until an administrator is selected.

**§ 27.1180 The cost-sharing formula.**

(a) An AWS licensee that relocates a BRS system with which it interferes is entitled to *pro rata* reimbursement based on the cost-sharing formula specified in § 27.1164, except that the depreciation factor shall be  $[180 - T_m]/180$ , and the variable  $C$  shall be applied as set forth in paragraph (b) of this section.

(b)  $C$  is the actual cost of relocating the system, and includes, but is not limited to, such items as: Radio terminal equipment (TX and/or RX—antenna, necessary feed lines, MUX/Modems); towers and/or modifications; back-up power equipment; monitoring or control equipment; engineering costs (design/path survey); installation; systems testing; FCC filing costs; site acquisition and civil works; zoning

costs; training; disposal of old equipment; test equipment (vendor required); spare equipment; project management; site lease renegotiation; required antenna upgrades for interference control; power plant upgrade (if required); electrical grounding systems; Heating Ventilation and Air Conditioning (HVAC) (if required); alternate transport equipment; leased facilities; and end user units served by the base station that is being relocated. In addition to actual costs, C may include the cost of an independent third party appraisal conducted pursuant to § 27.1182(a)(3) and incumbent transaction expenses that are directly attributable to the relocation, subject to a cap of two percent of the "hard" costs involved. Hard costs are defined as the actual costs associated with providing a replacement system, such as equipment and engineering expenses. There is no cap on the actual costs of relocation.

(c) An AWS system shall be considered an interfering system for purposes of this rule if the AWS system is in all or part of the BRS frequency band and operates within line of sight to BRS operations under the applicable test specified in § 27.1184. An AWS relocator that relocates a BRS system with which it does not interfere is entitled to full reimbursement, as specified in § 27.1182(c).

#### **§ 27.1182 Reimbursement under the Cost-Sharing Plan.**

(a) *Registration of reimbursement rights.* (1) To obtain reimbursement, an AWS relocator must submit documentation of the relocation agreement to the clearinghouse within 30 calendar days of the date a relocation agreement is signed with an incumbent. In the case of involuntary relocation, an AWS relocator must submit documentation of the relocated system within 30 calendar days after the end of the one-year trial period.

(2) Registration of any BRS system shall include:

(i) A description of the system's frequency use;

(ii) If the system exclusively provides one-way transmissions to subscribers, the Geographic Service Area of the system; and

(iii) If the system does not exclusively provide one-way transmission to subscribers, the system hub antenna's geographic location and the above ground level height of the system's receiving antenna centerline.

(3) The AWS relocator must also include with its system registration an independent third party appraisal of the compensable relocation costs. The appraisal should be based on the actual cost of replacing the incumbent's system with comparable facilities and should exclude the cost of any equipment upgrades that are not necessary to the provision of comparable facilities. An AWS relocator may submit registration without a third party appraisal if it consents to binding resolution by the clearinghouse of any good faith cost disputes regarding the reimbursement claim, under the following standard: The relocator shall bear the burden of proof, and be required to demonstrate by clear and convincing evidence that its request does not exceed the actual cost of relocating the relevant BRS system or systems to comparable facilities. Failure to satisfy this burden of proof will result in loss of rights to subsequent reimbursement of the disputed costs from any AWS licensee.

(b) *Documentation of expenses.* Once relocation occurs, the AWS relocator must submit documentation itemizing the amount spent for items specifically listed in § 27.1180(b), as well as any reimbursable items not specifically listed in § 27.1180(b) that are directly attributable to actual relocation costs. Specifically, the AWS relocator must submit, in the first instance, only the uniform cost data requested by the clearinghouse along with copies, without redaction, of the relocation agreement, if any, and the third party appraisal described in (a)(3), of this section, if prepared. The AWS relocator must identify the particular system associated with appropriate expenses (i.e., costs may not be averaged over numerous systems). If an AWS relocator pays a BRS incumbent a monetary sum to relocate its own facilities in whole or in part, the AWS relocator must itemize the actual costs to the extent determinable, and otherwise must estimate

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the actual costs associated with relocating the incumbent and itemize these costs. If the sum paid to the incumbent cannot be accounted for, the remaining amount is not eligible for reimbursement. All AWS relocators seeking reimbursement through the clearinghouse have an ongoing duty to maintain all relevant records of BRS relocation-related expenses until the sunset of cost-sharing obligations, and to provide, upon request, such documentation, including a copy of the independent appraisal if one was conducted, to the clearinghouse, the Commission, or AWS entrants that trigger a cost-sharing obligation.

(c) *Full reimbursement.* An AWS locator who relocates a BRS system that is either:

- (1) Wholly outside its frequency band; or
- (2) Not within line of sight of the locator's transmitting base station may seek full reimbursement through the clearinghouse of compensable costs. Such reimbursement will not be subject to depreciation under the cost-sharing formula.

(d) *Good Faith Requirement.* New entrants and incumbent licensees are expected to act in good faith in satisfying the cost-sharing obligations under §§ 27.1176 through 27.1190. The requirement to act in good faith extends to, but is not limited to, the preparation and submission of the documentation required in paragraph (b) of this section.

### § 27.1184 Triggering a reimbursement obligation.

(a) The clearinghouse will apply the following test to determine when an AWS entity has triggered a cost-sharing obligation and therefore must pay an AWS locator of a BRS system in accordance with the formula detailed in § 27.1180:

(1) All or part of the relocated BRS system was initially co-channel with the licensed AWS band(s) of the AWS entity;

(2) An AWS locator has paid the relocation costs of the BRS incumbent; and

(3) The other AWS entity has turned on or is preparing to turn on a fixed base station at commercial power and

the incumbent BRS system would have been within the line of sight of the AWS entity's fixed base station, defined as follows.

(i) For a BRS system using the 2150–2160/62 MHz band exclusively to provide one-way transmissions to subscribers, the clearinghouse will determine whether there is an unobstructed signal path (line of sight) to the incumbent licensee's geographic service area (GSA), based on the following criteria: use of 9.1 meters (30 feet) for the receiving antenna height, use of the actual transmitting antenna height and terrain elevation, and assumption of 4/3 Earth radius propagation conditions. Terrain elevation data must be obtained from the U.S. Geological Survey (USGS) 3-second database. All coordinates used in carrying out the required analysis shall be based upon use of NAD-83.

(ii) For all other BRS systems using the 2150–2160/62 MHz band, the clearinghouse will determine whether there is an unobstructed signal path (line of sight) to the incumbent licensee's receive station hub using the method prescribed in "Methods for Predicting Interference from Response Station Transmitters and to Response Station Hubs and for Supplying Data on Response Station Systems. MM Docket 97-217," in Amendment of 47 CFR parts 1, 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions, MM Docket No. 97-217, *Report and Order on Further Reconsideration and Further Notice of Proposed Rulemaking*, 15 FCC Rcd 14566 at 14610, Appendix D.

(b) If the application of the trigger test described in paragraphs (a)(3)(i) and (ii) of this section, indicates that a reimbursement obligation exists, the clearinghouse will calculate the reimbursement amount in accordance with the cost-sharing formula and notify the subsequent AWS entity of the total amount of its reimbursement obligation.

(c) Once a reimbursement obligation is triggered, the AWS entity may not avoid paying its cost-sharing obligation by deconstructing or modifying its facilities.

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### § 27.1186 Payment issues.

Payment of cost-sharing obligations for the relocation of BRS systems in the 2150-60/62 MHz band is subject to the rules set forth in § 27.1170. If an AWS licensee is initiating operations for a newly constructed site or modified existing site in licensed bands overlapping the 2150-2160/62 MHz band, the AWS licensee must file with the clearinghouse, in addition to the site-specific data required by § 27.1170, the above ground level height of the transmitting antenna centerline. AWS entities have a continuing duty to maintain the accuracy of the site-specific data on file with the clearinghouse.

[71 FR 29835, May 24, 2006, as amended at 72 FR 41939, Aug. 1, 2007]

### § 27.1188 Dispute resolution under the Cost-Sharing Plan.

(a) Disputes arising out of the cost-sharing plan, such as disputes over the amount of reimbursement required, must be brought, in the first instance, to the clearinghouse for resolution. To the extent that disputes cannot be resolved by the clearinghouse, parties are encouraged to use expedited Alternative Dispute Resolution (ADR) procedures, such as binding arbitration, mediation, or other ADR techniques.

(b) *Evidentiary requirement.* Parties of interest contesting the clearinghouse's determination of specific cost-sharing obligations must provide evidentiary support to demonstrate that their calculation is reasonable and made in good faith. Specifically, these parties are expected to exercise due diligence to obtain the information necessary to prepare an independent estimate of the relocation costs in question and to file the independent estimate and supporting documentation with the clearinghouse.

### § 27.1190 Termination of cost-sharing obligations.

The plan for cost-sharing in connection with BRS relocation will sunset for all AWS entities fifteen years after the relocation sunset period for BRS relocation commences, *i.e.*, fifteen years after the first AWS licenses are issued in any part of the 2150-2162 MHz band. AWS entrants that trigger a

cost-sharing obligation prior to the sunset date must satisfy their payment obligation in full.

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SOURCE: 69 FR 72034, Dec. 10, 2004, unless otherwise noted.

### § 27.1200 Change to BRS and EBS.

(a) As of January 10, 2005, licensees assigned to the Multipoint Distribution Service (MDS) and the Multichannel Multipoint Distribution Service (MMDS) shall be reassigned to the Broadband Radio Service (BRS) and licensees in the Instructional Television Fixed Service (ITFS) shall be reassigned to the Educational Broadband Service (EBS).

### § 27.1201 [Reserved]

### § 27.1202 Cable/BRS cross-ownership.

(a) Initial or modified authorizations for BRS stations may not be granted to a cable operator if a portion of the BRS station's protected services area is within the portion of the franchise area actually served by the cable operator's cable system and the cable operator will be using the BRS station as a multichannel video programming distributor (as defined in § 76.64(d) of this chapter). No cable operator may acquire such authorization either directly, or indirectly through an affiliate owned, operated, or controlled by or under common control with a cable operator if the cable operator will use the BRS station as a multichannel video programming distributor.

(b) No licensee of a station in this service may lease transmission time or capacity to a cable operator either directly, or indirectly through an affiliate owned, operated, controlled by, or under common control with a cable operator, if a portion of the BRS station's protected services area is within the portion of the franchise area actually served by the cable operator's cable system the cable operator will use the BRS station as a multichannel video programming distributor.

(c) Applications for new stations, station modifications, assignments or

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transfers of control by cable operators of BRS stations shall include a showing that no portion of the GSA of the BRS station is within the portion of the franchise area actually served by the cable operator's cable system, or of any entity indirectly affiliated, owned, operated, controlled by, or under common control with the cable operator. Alternatively, the cable operator may certify that it will not use the BRS station to distribute multichannel video programming.

(d) In applying the provisions of this section, ownership and other interests in BRS licensees or cable television systems will be attributed to their holders and deemed cognizable pursuant to the following criteria:

(1) Except as otherwise provided herein, partnership and direct ownership interests and any voting stock interest amounting to 5% or more of the outstanding voting stock of a corporate BRS licensee or cable television system will be cognizable;

(2) Investment companies, as defined in 15 U.S.C. 80a-3, insurance companies and banks holding stock through their trust departments in trust accounts will be considered to have a cognizable interest only if they hold 20% or more of the outstanding voting stock of a corporate BRS licensee or cable television system, or if any of the officers or directors of the BRS licensee or cable television system are representatives of the investment company, insurance company or bank concerned. Holdings by a bank or insurance company will be aggregated if the bank or insurance company has any right to determine how the stock will be voted. Holdings by investment companies will be aggregated if under common management.

(3) Attribution of ownership interests in a BRS licensee or cable television system that are held indirectly by any party through one or more intervening corporations will be determined by successive multiplication of the ownership percentages for each link in the vertical ownership chain and application of the relevant attribution benchmark to the resulting product, except that wherever the ownership percentage for any link in the chain exceeds 50%, it shall not be included for pur-

poses of this multiplication. For purposes of paragraph (d)(9) of this section, attribution of ownership interests in a BRS licensee or cable television system that are held indirectly by any party through one or more intervening organizations will be determined by successive multiplication of the ownership percentages for each link in the vertical ownership chain and application of the relevant attribution benchmark to the resulting product, and the ownership percentage for any link in the chain that exceeds 50% shall be included for purposes of this multiplication. For example, except for purposes of paragraph (d)(9) of this section, if A owns 10% of company X, which owns 60% of company Y, which owns 25% of "Licensee," then X's interest in "Licensee" would be 25% (the same as Y's interest because X's interest in Y exceeds 50%), and A's interest in "Licensee" would be 2.5% ( $0.1 \times 0.25$ ). Under the 5% attribution benchmark, X's interest in "Licensee" would be cognizable, while A's interest would not be cognizable. For purposes of paragraph (d)(9) of this section, X's interest in "Licensee" would be 15% ( $0.6 \times 0.25$ ) and A's interest in "Licensee" would be 1.5% ( $0.1 \times 0.6 \times 0.25$ ). Neither interest would be attributed under paragraph (d)(9) of this section.

(4) Voting stock interests held in trust shall be attributed to any person who holds or shares the power to vote such stock, to any person who has the sole power to sell such stock, and to any person who has the right to revoke the trust at will or to replace the trustee at will. If the trustee has a familial, personal or extra-trust business relationship to the grantor or the beneficiary, the grantor or beneficiary, as appropriate, will be attributed with the stock interests held in trust. An otherwise qualified trust will be ineffective to insulate the grantor or beneficiary from attribution with the trust's assets unless all voting stock interests held by the grantor or beneficiary in the relevant BRS licensee or cable television system are subject to said trust.

(5) Subject to paragraph (d)(9) of this section, holders of non-voting stock shall not be attributed an interest in the issuing entity. Subject to paragraph (d)(9) of this section, holders of

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debt and instruments such as warrants, convertible debentures, options or other non-voting interests with rights of conversion to voting interests shall not be attributed unless and until conversion is effected.

(6)(i) A limited partnership interest shall be attributed to a limited partner unless that partner is not materially involved, directly or indirectly, in the management or operation of the BRS or cable television activities of the partnership and the licensee or system so certifies. An interest in a Limited Liability Company ("LLC") or Registered Limited Liability Partnership ("RLLP") shall be attributed to the interest holder unless that interest holder is not materially involved, directly or indirectly, in the management or operation of the BRS or cable television activities of the partnership and the licensee or system so certifies.

(ii) For a licensee or system that is a limited partnership to make the certification set forth in paragraph (d)(6)(i) of this section, it must verify that the partnership agreement or certificate of limited partnership, with respect to the particular limited partner exempt from attribution, establishes that the exempt limited partner has no material involvement, directly or indirectly, in the management or operation of the BRS or cable television activities of the partnership. For a licensee or system that is an LLC or RLLP to make the certification set forth in paragraph (d)(6)(i) of this section, it must verify that the organizational document, with respect to the particular interest holder exempt from attribution, establishes that the exempt interest holder has no material involvement, directly or indirectly, in the management or operation of the BRS or cable television activities of the LLC or RLLP. Irrespective of the terms of the certificate of limited partnership or partnership agreement, or other organizational document in the case of an LLC or RLLP, however, no such certification shall be made if the individual or entity making the certification has actual knowledge of any material involvement of the limited partners, or other interest holders in the case of an LLC or RLLP, in the management or operation of the BRS

or cable television businesses of the partnership or LLC or RLLP.

(iii) In the case of an LLC or RLLP, the licensee or system seeking installation shall certify, in addition, that the relevant state statute authorizing LLCs permits an LLC member to insulate itself as required by our criteria.

(7) Officers and directors of a BRS licensee or cable television system are considered to have a cognizable interest in the entity with which they are so associated. If any such entity engages in businesses in addition to its primary business of BRS or cable television service, it may request the Commission to waive attribution for any officer or director whose duties and responsibilities are wholly unrelated to its primary business. The officers and directors of a parent company of a BRS licensee or cable television system, with an attributable interest in any such subsidiary entity, shall be deemed to have a cognizable interest in the subsidiary unless the duties and responsibilities of the officer or director involved are wholly unrelated to the BRS licensee or cable television system subsidiary, and a statement properly documenting this fact is submitted to the Commission. The officers and directors of a sister corporation of a BRS licensee or cable television system shall not be attributed with ownership of these entities by virtue of such status.

(8) Discrete ownership interests will be aggregated in determining whether or not an interest is cognizable under this section. An individual or entity will be deemed to have a cognizable investment if:

(i) The sum of the interests held by or through "passive investors" is equal to or exceeds 20 percent; or

(ii) The sum of the interests other than those held by or through "passive investors" is equal to or exceeds 5 percent; or

(iii) The sum of the interests computed under paragraph (d)(8)(i) of this section plus the sum of the interests computed under paragraph (d)(8)(ii) of this section equal to or exceeds 20 percent.

(9) Notwithstanding paragraphs (d)(5) and (d)(6) of this section, the holder of an equity or debt interest or interests in a BRS licensee or cable television

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system subject to the BRS/cable cross-ownership rule ("interest holder") shall have that interest attributed if:

(i) The equity (including all stockholdings, whether voting or nonvoting, common or preferred) and debt interest or interests, in the aggregate, exceed 33 percent of the total asset value (all equity plus all debt) of that BRS licensee or cable television system; and

(ii) The interest holder also holds an interest in a BRS licensee or cable television system that is attributable under this section (other than this paragraph) and which operates in any portion of the franchise area served by that cable operator's cable system.

(10) The term "area served by a cable system" means any area actually passed by the cable operator's cable system and which can be connected for a standard connection fee.

(11) As used in this section "cable operator" shall have the same definition as in § 76.5 of this chapter.

(e) The Commission will entertain requests to waive the restrictions in paragraph (a) of this section where necessary to ensure that all significant portions of the franchise area are able to obtain multichannel video service.

(f) The provisions of paragraphs (a) through (e) of this section will not apply to one BRS channel used to provide locally-produced programming to cable headends. Locally-produced programming is programming produced in or near the cable operator's franchise area and not broadcast on a television station available within that franchise area. A cable operator will be permitted one BRS channel for this purpose, and no more than one BRS channel may be used by a cable television company or its affiliate or lessor pursuant to this paragraph. The licensee for a cable operator providing local programming pursuant to a lease must include in a notice filed with the Wireless Telecommunications Bureau a cover letter explicitly identifying itself or its lessees as a local cable operator and stating that the lease was executed to facilitate the provision of local programming. The first application or the first lease notification in an area filed with the Commission will be entitled to the exemption. The limitations on one BRS channel per party and per

area include any cable/BRS operations or cable/EBS operations. The cable operator must demonstrate in its BRS application that the proposed local programming will be provided within one year from the date its application is granted. Local programming service pursuant to a lease must be provided within one year of the date of the lease or one year of grant of the licensee's application for the leased channel, whichever is later. If a BRS license for these purposes is granted and the programming is subsequently discontinued, the license will be automatically forfeited the day after local programming service is discontinued.

(g) Applications filed by cable television companies, or affiliates, for BRS channels prior to February 8, 1990, will not be subject to the prohibitions of this section. Applications filed on February 8, 1990, or thereafter will be returned. Lease arrangements between cable and BRS entities for which a lease or a firm agreement was signed prior to February 8, 1990, will also not be subject to the prohibitions of this section. Leases between cable television companies, or affiliates, and BRS station licensees, conditional licensees, or applicants executed on February 8, 1990, or thereafter, are invalid.

(1) Applications filed by cable operators, or affiliates, for BRS channels prior to February 8, 1990, will not be subject to the prohibitions of this section. Except as provided in paragraph (g)(2) of this section, applications filed on February 8, 1990, or thereafter will be returned. Lease arrangements between cable and BRS entities for which a lease or a firm agreement was signed prior to February 8, 1990, will also not be subject to the prohibitions of this section. Except as provided in paragraph (g)(2) of this section, leases between cable operators, or affiliates, and BRS/EBS station licensees, conditional licensees, or applicants executed on or before February 8, 1990, or thereafter are invalid.

(2) Applications filed by cable operators, or affiliates for BRS channels after February 8, 1990, and prior to October 5, 1992, will not be subject to the prohibition of this section, if, pursuant to the then existing overbuild or rural

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exceptions, the applications were allowed under the then existing cable/BRS cross-ownership prohibitions. Lease arrangements between cable operators and BRS entities for which a lease or firm agreement was signed after February 8, 1990, and prior to October 5, 1992, will not be subject to the prohibitions of this section, if, pursuant to the then existing rural and overbuild exceptions, the lease arrangements were allowed.

(3) The limitations on cable television ownership in this section do not apply to any cable operator in any franchise area in which a cable operator is subject to effective competition as determined under section 623(l) of the Communications Act.

[69 FR 72034, Dec. 10, 2004, as amended at 71 FR 35190, June 19, 2006]

**§ 27.1203 [Reserved]****§ 27.1204 EBS Tribal priority filing window.**

(a) The Commission will specify by public notice a window filing period for applications for new EBS stations on rural Tribal Lands. EBS applications for new facilities will be accepted only during this window. Applications submitted prior to the window opening date identified in the public notice will be returned as premature. Applications submitted after the deadline will be dismissed with prejudice as untimely.

(b) Applicants in the Tribal priority filing window must demonstrate that they are eligible to file in that window. To be considered eligible for the Tribal priority window, an applicant must be:

(1) A federally recognized American Indian Tribe or Alaska Native Village; or an entity that is owned and controlled by a federally-recognized Tribe or a consortium of federally-recognized Tribes;

(2) Requesting a license on Tribal Land, which is defined to be any federally recognized Indian Tribe's reservation, pueblo or colony, including former reservations in Oklahoma, Alaska Native regions established pursuant to the Alaska Native Claims Settlement Act (85 Stat. 688) and Indian Allotments, see §54.400(e) of this chapter, as well as Hawaiian Home Lands—areas held in trust for native Hawaiians by the State of Hawaii, pursuant to the Hawaiian Homes Commission Act, 1920, July 9, 1921, 42 Stat 108, *et seq.*, as amended; and any lands designated prior to July 10, 2019, as Tribal Lands pursuant to the designation process contained in §54.412 of this chapter;

(3) Requesting a GSA in a rural area, which is defined to be lands that are not part of an urbanized area or urban cluster area with a population equal to or greater than 50,000; and

(4) Have a local presence on the Tribal Land for which they are applying.

(c) Following the close of the Tribal priority window, the Commission will issue a public notice of acceptance for filing of applications submitted pursuant to paragraph (b) of this section that meet technical and legal requirements and that are not in conflict with any other application filed during the window. Petitions to deny such applications may be filed within 30 days of such public notice. A copy of any petition to deny must be served on the applicant.

(d) If applications are filed in the Tribal priority window that are mutually exclusive, the Commission will use competitive bidding to resolve the mutual exclusivity. Two or more pending applications are mutually exclusive if the grant of one application would effectively preclude the grant of one or more of the others under Commission rules in this chapter.

(e) For non-mutually exclusive applications, the applications will be processed in accordance with procedures to be specified by the Wireless Telecommunications Bureau.

[84 FR 57365, Oct. 25, 2019, as amended at 85 FR 1284, Jan. 10, 2020]

**§ 27.1205 EBS renewal standard.**

In applying the renewal standard contained in §1.949 of this chapter to EBS, for licenses initially issued after October 25, 2019, the applicable safe harbors are the buildout standards contained in §27.14(u). For licenses initially issued before October 25, 2019, the applicable safe harbors are the buildout standards contained in §27.14(o); provided, however, that the educational use safe harbor contained in §27.14(o)(2) may only be used by a licensee that

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meets the eligibility requirements to hold an EBS license pursuant to the provisions of § 27.1201(a) contained in the edition of 47 CFR parts 20 through 39, revised as of October 1, 2017.

[84 FR 57365, Oct. 25, 2019]

**§ 27.1206 Geographic service area.****(a) BRS:**

(1) For BRS incumbent licenses granted before September 15, 1995, the geographic service area (GSA) is the area that is bounded by a circle having a 35 mile radius and centered at the station's reference coordinates, which was the previous PSA entitled to incumbent licensees prior to January 10, 2005, and is bounded by the chord(s) drawn between intersection points of the licensee's previous 35 mile PSA and those of respective adjacent market, co-channel licensees;

(2) For BRS BTA authorization holders, the GSA for a channel is the BTA, subject to the exclusion of overlapping, co-channel incumbent GSAs created on January 10, 2005.

(3) If an incumbent BRS license is cancelled or is forfeited, the GSA area of the incumbent station shall dissolve and the right to operate in that area automatically reverts to the GSA licensee that held the corresponding BTA.

**(b) EBS:**

(1) *Existing EBS licensees.* (i) The GSA of EBS licenses on the E and F channel groups is defined in § 27.1216. EBS licensees on the E and F channel groups are prohibited from expanding their GSAs.

(ii) For incumbent EBS licenses not in the E and F channel groups in effect as of October 25, 2019, the geographic service area (GSA) is the area that is bounded by a circle having a 35 mile radius and centered at the station's reference coordinates, which was the previous PSA entitled to incumbent licensees prior to January 10, 2005, and is bounded by the chord(s) drawn between intersection points of the licensee's previous 35 mile PSA and those of respective adjacent market, co-channel licensees.

(2) *New initial EBS licenses.* (i) For EBS licenses issued in the Tribal Priority Window, the GSA consists of the rural Tribal Land (as defined in

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§ 27.1204(b)(3)) specified in the application.

(ii) For all other new initial licenses issued after April 27, 2020, the GSA is the county for which the license is issued, subject to the exclusion of overlapping, co-channel incumbent GSAs.

[84 FR 57365, Oct. 25, 2019]

**§ 27.1207 Service areas and authorizations.**

(a) Initial authorizations for BRS granted after January 1, 2008, shall be blanket licenses for all BRS frequencies identified in § 27.5(i)(2). Except for incumbent BRS licenses, BRS service areas are the 1992 version of Basic Trading Areas (BTAs) defined by Rand McNally, or additional service areas similar to BTAs adopted by the Commission. The market area for each license will be listed on the license authorization. The following are additional BRS service areas in places where Rand McNally has not defined BTAs: American Samoa; Guam; Gulf of Mexico Zone A; Gulf of Mexico Zone B; Gulf of Mexico Zone C; Northern Mariana Islands; Mayaguez/Aguadilla-Ponce, Puerto Rico; San Juan, Puerto Rico; and the United States Virgin Islands. The boundaries of Gulf of Mexico Zone A are from an area twelve nautical miles from the shoreline at mean high tide on the north and east, to the limit of the Outer Continental Shelf to the south, and to longitude 91°00' to the west. The boundaries of Gulf of Mexico Zone B are from an area twelve nautical miles from the shoreline at mean high tide on the north, to the limit of the Outer Continental Shelf to the south, to longitude 91°00' to the east, and to longitude 94°00' to the west. The boundaries of Gulf of Mexico Zone C are from an area twelve nautical miles from the shoreline at mean high tide on the north and west, to longitude 94°00' to the east, and to a line 281 kilometers from the reference point at Linares, N.L., Mexico on the southwest. The Mayaguez/Aguadilla-Ponce, PR, service area consists of the following municipios: Adjuntas, Aguada, Aguadilla, Anasco, Arroyo, Cabo Rojo, Coamo, Guanica, Guayama, Guayanilla, Hormigueros, Isabela, Jayuya, Juana Diaz, Lajas, Las Marias, Maricao, Maunabo, Mayaguez, Moca,

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Patillas, Penuelas, Ponce, Quebradillas, Rincón, Sabana Grande, Salinas, San German, Santa Isabel, Villalba and Yauco. The San Juan service area consists of all other municipios in Puerto Rico.

(b) For EBS initial licenses issued after October 25, 2019, except for licenses issued in the Tribal Priority Window, the GSA is the county for which the license is issued, subject to the exclusion of overlapping, co-channel incumbent GSAs. For purposes of this subpart, counties are defined using the United States Census Bureau's data reflecting county legal boundaries and names valid through January 1, 2017. Except for licenses issued in the Tribal Priority Window, there shall be three initial authorizations issued in each county: One authorization for channels A1, A2, A3, B1, B2, B3, C1, C2, and C3; the second authorization for channels D1, D2, D3, JA1, JA2, JA3, JB1, JB2, JB3, JC1, JC2, JC3, JD1, JD2, JD3, A4, B4, C4, D4, and G4; the third authorization for channels G1, G2, G3, KG1, KG2, and KG3.

[84 FR 57366, Oct. 25, 2019]

### § 27.1208 Geographic area licensing.

(a) All BRS and EBS licenses are geographic area licenses. Blanket licenses cover all mobile and response stations. Pursuant to that geographic area license, incumbent licensees may modify their systems provided the modified system complies with the applicable rules in this chapter. The blanket license covers all fixed stations anywhere within the authorized service area, except a station must be individually licensed if:

- (1) International agreements require coordination;
- (2) Submission of an Environmental Assessment is required under § 1.1307 of this chapter; and
- (3) The station would affect the radio quiet zones under § 1.924 of this chapter.

(b) Any antenna structure that requires notification to the Federal Aviation Administration (FAA) must be registered with the Commission prior to construction under § 17.4 of this chapter.

[84 FR 57366, Oct. 25, 2019]

### § 27.1209 Reversion and overlay rights.

(a) The frequencies associated with BRS incumbent authorizations that have cancelled automatically or otherwise recovered by the Commission automatically revert to the applicable BRS BTA licensee.

(b) The frequencies associated with EBS incumbent authorizations with a geographic service area that have cancelled automatically or otherwise recovered by the Commission automatically revert to a co-channel EBS county-based licensee, except that if the area in question is Tribal Land as defined in § 27.1204(b)(3) and is contiguous to the GSA of a co-channel authorization issued in the Tribal Priority Window, the area consisting of Tribal Land reverts to the co-channel license issued in the Tribal Priority Window.

(c) The frequencies associated with EBS authorizations issued in the Tribal Priority Window with a geographic service area that have cancelled automatically or otherwise recovered by the Commission automatically revert to a co-channel EBS county-based authorization.

[84 FR 57366, Oct. 25, 2019]

### § 27.1210 Remote control operation.

Licensed BRS/EBS stations may be operated by remote control without further authority.

### § 27.1211 Unattended operation.

Unattended operation of licensed BRS/EBS stations is permitted without further authority. An unattended relay station may be employed to receive and retransmit signals of another station provided that the transmitter is equipped with circuits which permit it to radiate only when the signal intended to be retransmitted is present at the receiver input terminals.

### § 27.1212 License term.

(a) BRS/EBS licenses shall be issued for a period of 10 years beginning with the date of grant.

(b) An initial BTA authorization shall be issued for a period of ten years from the date the Commission declared bidding closed in the MDS auction.

## § 27.1213

### § 27.1213 Designated entity provisions for BRS in Commission auctions commencing prior to January 1, 2004.

(a) *Eligibility for small business provisions.* For purposes of Commission auctions commencing prior to January 1, 2004 for BRS licenses, a small business is an entity that together with its affiliates has average annual gross revenues that are not more than \$40 million for the preceding three calendar years.

(b) *Designated entities.* As specified in this section, designated entities that are winning bidders in Commission auctions commencing prior to January 1, 2004 for BTA service areas are eligible for special incentives in the auction process. See 47 CFR 1.2110.

(c) *Installment payments.* Small businesses and small business consortia may elect to pay the full amount of their winning bids in Commission auctions commencing prior to January 1, 2004 for BTA service areas in installments over a ten (10) year period running from the date that their BTA authorizations are issued.

(1) Upon issuance of a BTA authorization to a winning bidder in a Commission auction commencing prior to January 1, 2004 that is eligible for installment payments, the Commission will notify such eligible BTA authorization holder of the terms of its installment payment plan. For BRS, such installment payment plans will:

(i) Impose interest based on the rate of ten (10) year U.S. Treasury obligations at the time of issuance of the BTA authorization, plus two and one half (2.5) percent;

(ii) Allow installment payments for a ten (10) year period running from the date that the BTA authorization is issued;

(iii) Begin with interest-only payments for the first two (2) years; and

(iv) Amortize principal and interest over the remaining years of the ten (10) year period running from the date that the BTA authorization is issued.

(2) *Conditions and obligations.* See § 1.2110(g)(4) of this chapter.

(3) *Unjust enrichment.* If an eligible BTA authorization holder that utilizes installment financing under this subsection seeks to partition, pursuant to applicable rules, a portion of its BTA

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containing one-third or more of the population of the area within its control in the licensed BTA to an entity not meeting the eligibility standards for installment payments, the holder must make full payment of the remaining unpaid principal and any unpaid interest accrued through the date of partition as a condition of approval.

(d) *Reduced upfront payments.* For purposes of Commission auctions commencing prior to January 1, 2004 for BRS licenses, a prospective bidder that qualifies as a small business, or as a small business consortia, is eligible for a twenty-five (25) percent reduction in the amount of the upfront payment otherwise required. To be eligible to bid on a particular BTA, a small business will be required to submit an upfront payment equal to seventy-five (75) percent of the upfront payment amount specified for that BTA in the public notice listing the upfront payment amounts corresponding to each BTA service area being auctioned.

(e) *Bidding credits.* For purposes of Commission auctions commencing prior to January 1, 2004 for BRS licenses, a winning bidder that qualifies as a small business, or as a small business consortia, may use a bidding credit of fifteen (15) percent to lower the cost of its winning bid on any of the BTA authorizations awarded in the Commission BRS auctions commencing prior to January 1, 2004.

(f) *Short-form application certification; Long-form application or statement of intention disclosure.* A BRS applicant in a Commission auction commencing prior to January 1, 2004 claiming designated entity status shall certify on its short-form application that it is eligible for the incentives claimed. A designated entity that is a winning bidder for a BTA service area(s) shall, in addition to information otherwise required, file an exhibit to either its initial long-form application for a BRS station license, or to its statement of intention with regard to the BTA, which discloses the gross revenues for each of the past three years of the winning bidder and its affiliates. This exhibit shall describe how the winning bidder claiming status as a designated entity satisfies the designated entity eligibility requirements,

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and must list and summarize all agreements that affect designated entity status, such as partnership agreements, shareholder agreements, management agreements and other agreements, including oral agreements, which establish that the designated entity will have both *de facto* and *de jure* control of the entity. See 47 CFR 1.2110(i).

(g) *Records maintenance.* All holders of BTA authorizations acquired in a Commission auction commencing prior to January 1, 2004 that claim designated entity status shall maintain, at their principal place of business or with their designated agent, an updated documentary file of ownership and revenue information necessary to establish their status. Holders of BTA authorizations or their successors in interest shall maintain such files for a ten (10) year period running from the date that their BTA authorizations are issued. The files must be made available to the Commission upon request.

[69 FR 72034, Dec. 10, 2004, as amended at 71 FR 35190, June 19, 2006]

**§ 27.1214 EBS grandfathered leases.**

All leases of current EBS spectrum entered into prior to January 10, 2005 and in compliance with leasing rules contained in 47 CFR part 74, revised as of October 1, 2004, may continue in force and effect, notwithstanding any inconsistency between such leases and the rules applicable to spectrum leasing arrangements set forth in this chapter. Such leases entered into pursuant to the rules formerly contained in 47 CFR part 74 may be renewed and assigned in accordance with the terms of such lease. All spectrum leasing arrangements leases entered into after January 10, 2005, under the rules set forth in part 1 of this chapter and this part, must comply with the rules in those parts.

[84 FR 57366, Oct. 25, 2019]

**§ 27.1215 BRS grandfathered leases.**

(a) All leases of current BRS spectrum entered into prior to January 10, 2005 and in compliance with rules formerly contained in part 21 of this chapter may continue in force and effect, notwithstanding any inconsistency be-

tween such leases and the rules applicable to spectrum leasing arrangements set forth in this chapter. Such leases entered into pursuant to the former part 21 of this chapter may be renewed and assigned in accordance with the terms of such lease. All spectrum leasing arrangements leases entered into after January 10, 2005, pursuant to the rules set forth in part 1 and part 27 of this chapter must comply with the rules in those parts.

**§ 27.1216 Grandfathered E and F group EBS licenses.**

(a) Except as noted in paragraph (b) of this section, grandfathered EBS licensees authorized to operate E and F group co-channel licenses are granted a geographic service area (GSA) on July 19, 2006. The GSA is the area bounded by a circle having a 35 mile radius and centered at the station's reference coordinates, and is bounded by the chord(s) drawn between intersection points of that circle and those of respective adjacent market, co-channel licensees.

(b) If there is more than 50 percent overlap between the calculated GSA of a grandfathered EBS license and the protected service area of a co-channel BRS license, the licensees shall not be immediately granted a geographic service area. Instead, the grandfathered EBS license and the co-channel BRS licensee must negotiate in good faith to reach a solution that accommodates the communication needs of both licensees. If the co-channel licensees reach a mutually agreeable solution on or before October 17, 2006, then the GSA of each co-channel license shall be as determined pursuant to the agreement of the parties. If a mutually agreeable solution between co-channel licensees is not reached on or before October 17, 2006, then each co-channel licensee shall receive a GSA determined pursuant to paragraph (a) of this section and § 27.1206(a).

[71 FR 35191, June 16, 2006]

**§ 27.1217 Competitive bidding procedures for the Broadband Radio Service and the Educational Broadband Service.**

Mutually exclusive initial applications for BRS and EBS licenses are

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subject to competitive bidding. For BRS auctions, the designated entity provisions of § 27.1218 apply. For EBS auctions, the designated entity provisions of § 27.1219 apply. The general competitive bidding procedures set forth in part 1, subpart Q, of this chapter apply unless otherwise provided in this subpart.

[84 FR 57366, Oct. 25, 2019]

### § 27.1218 Broadband Radio Service designated entity provisions.

(a) *Eligibility for small business provisions.* (1) A small business is an entity that, together with all attributed parties, has average gross revenues that are not more than \$40 million for the preceding three years.

(2) A very small business is an entity that, together with all attributed parties, has average gross revenues that are not more than \$15 million for the preceding three years.

(3) An entrepreneur is an entity that, together with all attributed parties, has average gross revenues that are not more than \$3 million for the preceding three years.

(b) *Bidding credits.* (1) A winning bidder that qualifies as a small business, as defined in this section, or a consortium of small businesses, may use a bidding credit of 15 percent, as specified in § 1.2110(f)(2)(iii) of this chapter, to lower the cost of its winning bid on any of the licenses in this subpart.

(2) A winning bidder that qualifies as a very small business, as defined in this section, or a consortium of very small businesses, may use a bidding credit of 25 percent, as specified in § 1.2110(f)(2)(ii) of this chapter, to lower the cost of its winning bid on any of the licenses in this subpart.

(3) A winning bidder that qualifies as an entrepreneur, as defined in this section, or a consortium of entrepreneurs, may use a bidding credit of 15 percent, as specified in § 1.2110(f)(2)(i) of this chapter, to lower the cost of its winning bid on any of the licenses in this subpart.

[73 FR 26041, May 8, 2008]

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### § 27.1219 Educational Broadband Service designated entity provisions.

(a) *Eligibility for small business provisions.* (1) A small business is an entity that, together with its affiliates, its controlling interests and the affiliates of its controlling interests, has average gross revenues that are not more than \$55 million for the preceding five (5) years.

(2) A very small business is an entity that, together with its affiliates, its controlling interests and the affiliates of its controlling interests, has average gross revenues that are not more than \$20 million for the preceding five (5) years.

(b) *Bidding credits.* A winning bidder that qualifies as a small business, as defined in this section, or a consortium of small businesses may use a bidding credit of 15 percent, as specified in § 1.2110(f)(2)(i)(C) of this chapter. A winning bidder that qualifies as a very small business, as defined in this section, or a consortium of very small businesses may use a bidding credit of 25 percent, as specified in § 1.2110(f)(2)(i)(B) of this chapter.

(c) *Rural service provider credit.* A rural service provider, as defined in § 1.2110(f)(4) of this chapter, who has not claimed a small business bidding credit may use a bidding credit of 15 percent bidding credit, as specified in § 1.2110(f)(4)(i) of this chapter.

[84 FR 57366, Oct. 25, 2019; 84 FR 64209, Nov. 21, 2019]

## TECHNICAL STANDARDS

### § 27.1220 Transmission standards.

The width of a channel in the LBS and UBS is 5.5 MHz, with the exception of BRS channels 1 and 2 which are 6.0 MHz. The width of all channels in the MBS is 6 MHz. However, the licensee may subchannelize its authorized bandwidth, provided that digital modulation is employed and the aggregate power does not exceed the authorized power for the channel. The licensee may also, jointly with other licensees, transmit utilizing bandwidth in excess of its authorized bandwidth, provided that digital modulation is employed, all power spectral density requirements set forth in this part are met

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and the out-of-band emissions restrictions set forth in § 27.53 are met at the edges of the channels employed.

**§ 27.1221 Interference protection.**

(a) Interference protection will be afforded to BRS and EBS on a station-by-station basis based on the heights of the stations in the LBS and UBS and also on height benchmarking, although the heights of antennas utilized are not restricted.

(b) *Height benchmarking.* Height benchmarking is defined for pairs of base stations, one in each of two proximate geographic service areas (GSAs). The height benchmark, which is defined in meters ( $hb_m$ ) for a particular base station relative to a base station in another GSA, is equal to the distance, in kilometers, from the base station along a radial to the nearest point on the GSA boundary of the other base station squared ( $D_{km}^2$ ) and then divided by 17. That is,  $hb_m = D_{km}^2/17$ . A base station antenna will be considered to be within its applicable height benchmark relative to another base station if the height in meters of its centerline of radiation above average elevation (HAAE) calculated along the straight line between the two base stations in accordance with § 24.53(b) and (c) of this chapter does not exceed the height benchmark ( $hb_m$ ). A base station antenna will be considered to exceed its applicable height benchmark relative to another base station if the HAAE of its centerline of radiation calculated along the straight line between the two base stations in accordance with § 24.53(b) and (c) of this chapter exceeds the height benchmark ( $hb_m$ ).

(c) *Protection for receiving antennas not exceeding the height benchmark.* Absent agreement between the two licensees to the contrary, if a transmitting antenna of one BRS/EBS licensee's base station exceeds its applicable height benchmark and such licensee is notified by another BRS/EBS licensee that it is generating an undesired signal level in excess of  $-107$  dBm/5.5 megahertz at the receiver of a co-channel base station that is within its applicable height benchmark, then the licensee of the base station that exceeds its applicable height benchmark shall either limit the undesired signal at the

receiver of the protected base station to  $-107$  dBm/5.5 megahertz or less or reduce the height of its transmission antenna to no more than the height benchmark. If the interfering base station has been modified to increase the EIRP transmitted in the direction of the protected base station, it shall be deemed to have commenced operations on the date of such modification. Such corrective action shall be completed no later than:

(i) 24 hours after receiving such notification, if the base station that exceeds its height benchmark commenced operations after the station that is within its applicable height benchmark; or

(ii) 90 days after receiving such notification, if the base station that exceeds its height commenced operations prior to the station that is within its applicable height benchmark. For purposes of this section, if the interfering base station has been modified to increase the EIRP transmitted in the direction of the victim base station, it shall be deemed to have commenced operations on the date of such modification.

(d) *No Protection from a transmitting antenna not exceeding the height benchmark.* The licensee of a base station transmitting antenna less than or equal to its applicable height benchmark shall not be required pursuant to paragraph (c) of this section to limit that antennas undesired signal level to  $-107$  dBm/5.5 megahertz or less at the receiver of any co-channel base station.

(e) *No protection for a receiving-antenna exceeding the height benchmark.* The licensee of a base station receive antenna that exceeds its applicable height benchmark shall not be entitled pursuant to paragraph (c) of this section to insist that any co-channel base station limit its undesired signal level to  $-107$  dBm/5.5 megahertz or less at the receiver.

(f) *Information exchange.* A BRS/EBS licensee shall provide the geographic coordinates, the height above ground level of the center of radiation for each transmit and receive antenna, and the date transmissions commenced for each of the base stations in its GSA within 30 days of receipt of a request from a co-channel BRS/EBS licensee

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with an operational base station located in a proximate GSA. Information shared pursuant to this section shall not be disclosed to other parties except as required to ensure compliance with this section.

[69 FR 72034, Dec. 10, 2004, as amended at 70 FR 1190, Jan. 6, 2005; 71 FR 35191, June 19, 2006; 73 FR 26041, May 8, 2008]

### § 27.1222 Operations in the 2568–2572 and 2614–2618 bands.

All operations in the 2568–2572 and 2614–2618 MHz bands shall be secondary to adjacent-channel operations. Stations operating in the 2568–2572 and 2614–2618 MHz must not cause interference to licensees in operation in the LBS, MBS, and UBS and must accept any interference from any station operating in the LBS, MBS, and UBS in compliance with the rules established in this subpart. Stations operating in the 2568–2572 and 2614–2618 bands may cause interference to stations in operation in the LBS, MBS, and UBS if the affected licensees consent to such interference.

#### RELOCATION PROCEDURES FOR THE 2150–2160/62 MHz BAND

SOURCE: Sections 27.1250 through 27.1255 appear at 71 FR 29840, May 24, 2006, unless otherwise noted.

### § 27.1250 Transition of the 2150–2160/62 MHz band from the Broadband Radio Service to the Advanced Wireless Service.

The 2150–2160/62 MHz band has been allocated for use by the Advanced Wireless Service (AWS). The rules in this section provide for a transition period during which AWS licensees may relocate existing Broadband Radio Service (BRS) licensees using these frequencies to their assigned frequencies in the 2496–2690 MHz band or other media.

(a) AWS licensees and BRS licensees shall engage in mandatory negotiations for the purpose of agreeing to terms under which the BRS licensees would:

(1) Relocate their operations to other frequency bands or other media; or alternatively

(2) Accept a sharing arrangement with the AWS licensee that may result

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in an otherwise impermissible level of interference to the BRS operations.

(b) If no agreement is reached during the mandatory negotiation period, an AWS licensee may initiate involuntary relocation procedures. Under involuntary relocation, the incumbent is required to relocate, provided that the AWS licensee meets the conditions of § 27.1252.

(c) Relocation of BRS licensees by AWS licensees will be subject to a three-year mandatory negotiation period. BRS licensees may suspend the running of the three-year negotiation period for up to one year if the BRS licensee cannot be relocated to comparable facilities at the time the AWS licensee seeks entry into the band.

### § 27.1251 Mandatory negotiations.

(a) Once mandatory negotiations have begun, a BRS licensee may not refuse to negotiate and all parties are required to negotiate in good faith. Good faith requires each party to provide information to the other that is reasonably necessary to facilitate the relocation process. The BRS licensee is required to cooperate with an AWS licensee's request to provide access to the facilities to be relocated, other than the BRS customer location, so that an independent third party can examine the BRS system and prepare an appraisal of the costs to relocate the incumbent. In evaluating claims that a party has not negotiated in good faith, the FCC will consider, *inter alia*, the following factors:

(1) Whether the AWS licensee has made a bona fide offer to relocate the BRS licensee to comparable facilities in accordance with § 27.1252(b);

(2) If the BRS licensee has demanded a premium, the type of premium requested (e.g., whether the premium is directly related to relocation, such as analog-to-digital conversions, versus other types of premiums), and whether the value of the premium as compared to the cost of providing comparable facilities is disproportionate (*i.e.*, whether there is a lack of proportion or relation between the two);

(3) What steps the parties have taken to determine the actual cost of relocation to comparable facilities;

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(4) Whether either party has withheld information requested by the other party that is necessary to estimate relocation costs or to facilitate the relocation process.

(b) Any party alleging a violation of our good faith requirement must attach an independent estimate of the relocation costs in question to any documentation filed with the Commission in support of its claim. An independent cost estimate must include a specification for the comparable facility and a statement of the costs associated with providing that facility to the incumbent licensee.

(c) Mandatory negotiations will commence for each BRS licensee when the AWS licensee informs the BRS licensee in writing of its desire to negotiate. Mandatory negotiations will be conducted with the goal of providing the BRS licensee with comparable facilities, defined as facilities possessing the following characteristics:

(1) *Throughput.* Communications throughput is the amount of information transferred within a system in a given amount of time. System is defined as a base station and all end user units served by that base station. If analog facilities are being replaced with analog, comparable facilities may provide a comparable number of channels. If digital facilities are being replaced with digital, comparable facilities provide equivalent data loading bits per second (bps).

(2) *Reliability.* System reliability is the degree to which information is transferred accurately within a system. Comparable facilities provide reliability equal to the overall reliability of the BRS system. For digital systems, reliability is measured by the percent of time the bit error rate (BER) exceeds a desired value, and for analog or digital video transmission, it is measured by whether the end-to-end transmission delay is within the required delay bound. If an analog system is replaced with a digital system, only the resulting frequency response, harmonic distortion, signal-to-noise ratio and its reliability will be considered in determining comparable reliability.

(3) *Operating Costs.* Operating costs are the cost to operate and maintain

the BRS system. AWS licensees would compensate BRS licensees for any increased recurring costs associated with the replacement facilities (*e.g.*, additional rental payments, and increased utility fees) for five years after relocation. AWS licensees could satisfy this obligation by making a lump-sum payment based on present value using current interest rates. Additionally, the maintenance costs to the BRS licensee would be equivalent to the replaced system in order for the replacement system to be comparable.

(d) AWS licensees are responsible for the relocation costs of end user units served by the BRS base station that is being relocated. If a lessee is operating under a BRS license, the BRS licensee may rely on the throughput, reliability, and operating costs of facilities in use by a lessee in negotiating comparable facilities and may include the lessee in negotiations.

**§ 27.1252 Involuntary relocation procedures.**

(a) If no agreement is reached during the mandatory negotiation period, an AWS licensee may initiate involuntary relocation procedures under the Commission's rules. AWS licensees are obligated to pay to relocate BRS systems to which the AWS system poses an interference problem. Under involuntary relocation, the BRS licensee is required to relocate, provided that the AWS licensee:

(1) Guarantees payment of relocation costs, including all engineering, equipment, site and FCC fees, as well as any legitimate and prudent transaction expenses incurred by the BRS licensee that are directly attributable to an involuntary relocation, subject to a cap of two percent of the "hard" costs involved. Hard costs are defined as the actual costs associated with providing a replacement system, such as equipment and engineering expenses. There is no cap on the actual costs of relocation. AWS licensees are not required to pay BRS licensees for internal resources devoted to the relocation process. AWS licensees are not required to pay for transaction costs incurred by BRS licensees during the mandatory period once the involuntary period is

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initiated, or for fees that cannot be legitimately tied to the provision of comparable facilities; and

(2) Completes all activities necessary for implementing the replacement facilities, including engineering and cost analysis of the relocation procedure and, if radio facilities are used, identifying and obtaining, on the incumbents' behalf, new microwave frequencies and frequency coordination.

(b) *Comparable facilities.* The replacement system provided to an incumbent during an involuntary relocation must be at least equivalent to the existing BRS system with respect to the following three factors:

(1) *Throughput.* Communications throughput is the amount of information transferred within a system in a given amount of time. System is defined as a base station and all end user units served by that base station. If analog facilities are being replaced with analog, the AWS licensee is required to provide the BRS licensee with a comparable number of channels. If digital facilities are being replaced with digital, the AWS licensee must provide the BRS licensee with equivalent data loading bits per second (bps). AWS licensees must provide BRS licensees with enough throughput to satisfy the BRS licensee's system use at the time of relocation, not match the total capacity of the BRS system.

(2) *Reliability.* System reliability is the degree to which information is transferred accurately within a system. AWS licensees must provide BRS licensees with reliability equal to the overall reliability of their system. For digital data systems, reliability is measured by the percent of time the bit error rate (BER) exceeds a desired value, and for analog or digital video transmissions, it is measured by whether the end-to-end transmission delay is within the required delay bound.

(3) *Operating costs.* Operating costs are the cost to operate and maintain the BRS system. AWS licensees must compensate BRS licensees for any increased recurring costs associated with the replacement facilities (*e.g.*, additional rental payments, increased utility fees) for five years after relocation. AWS licensees may satisfy this obliga-

tion by making a lump-sum payment based on present value using current interest rates. Additionally, the maintenance costs to the BRS licensee must be equivalent to the replaced system in order for the replacement system to be considered comparable.

(c) AWS licensees are responsible for the relocation costs of end user units served by the BRS base station that is being relocated. If a lessee is operating under a BRS license, the AWS licensee shall on the throughput, reliability, and operating costs of facilities in use by a lessee at the time of relocation in determining comparable facilities for involuntary relocation purposes.

(d) *Twelve-month trial period.* If, within one year after the relocation to new facilities, the BRS licensee demonstrates that the new facilities are not comparable to the former facilities, the AWS licensee must remedy the defects or pay to relocate the BRS licensee to one of the following: Its former or equivalent 2 GHz channels, another comparable frequency band, a land-line system, or any other facility that satisfies the requirements specified in paragraph (b) of this section. This trial period commences on the date that the BRS licensee begins full operation of the replacement system. If the BRS licensee has retained its 2 GHz authorization during the trial period, it must return the license to the Commission at the end of the twelve months.

### § 27.1253 Sunset provisions.

(a) BRS licensees will maintain primary status in the 2150–2160/62 MHz band unless and until an AWS licensee requires use of the spectrum. AWS licensees are not required to pay relocation costs after the relocation rules sunset (*i.e.* fifteen years from the date the first AWS license is issued in the band). Once the relocation rules sunset, an AWS licensee may require the incumbent to cease operations, provided that the AWS licensee intends to turn on a system within interference range of the incumbent, as determined by § 27.1255. AWS licensee notification to the affected BRS licensee must be in writing and must provide the incumbent with no less than six months to vacate the spectrum. After the six-

month notice period has expired, the BRS licensee must turn its license back into the Commission, unless the parties have entered into an agreement which allows the BRS licensee to continue to operate on a mutually agreed upon basis.

(b) If the parties cannot agree on a schedule or an alternative arrangement, requests for extension will be accepted and reviewed on a case-by-case basis. The Commission will grant such extensions only if the incumbent can demonstrate that:

(1) It cannot relocate within the six-month period (*e.g.*, because no alternative spectrum or other reasonable option is available); and

(2) The public interest would be harmed if the incumbent is forced to terminate operations.

#### § 27.1254 Eligibility.

(a) BRS licensees with primary status in the 2150–2162 MHz band as of June 23, 2006, will be eligible for relocation insofar as they have facilities that are constructed and in use as of this date.

(b) *Future licensing and modifications.* After June 23, 2006, all major modifications to existing BRS systems in use in the 2150–2160/62 MHz band will be authorized on a secondary basis to AWS systems, unless the incumbent affirmatively justifies primary status and the incumbent BRS licensee establishes that the modification would not add to the relocation costs of AWS licensees. Major modifications include the following:

(1) Additions of new transmit sites or base stations made after June 23, 2006;

(2) Changes to existing facilities made after June 23, 2006, that would increase the size or coverage of the service area, or interference potential, and that would also increase the throughput of an existing system (*e.g.*, sector splits in the antenna system). Modifications to fully utilize the existing throughput of existing facilities (*e.g.*, to add customers) will not be considered major modifications even if such changes increase the size or coverage of the service area, or interference potential.

#### § 27.1255 Relocation criteria for Broadband Radio Service licensees in the 2150–2160/62 MHz band.

(a) An AWS licensee in the 2150–2160/62 MHz band, prior to initiating operations from any base or fixed station that is co-channel to the 2150–2160/62 MHz band, must relocate any incumbent BRS system that is within the line of sight of the AWS licensee's base or fixed station. For purposes of this section, a determination of whether an AWS facility is within the line of sight of a BRS system will be made as follows:

(1) For a BRS system using the 2150–2160/62 MHz band exclusively to provide one-way transmissions to subscribers, the AWS licensee will determine whether there is an unobstructed signal path (line of sight) to the incumbent licensee's geographic service area (GSA), based on the following criteria: use of 9.1 meters (30 feet) for the receiving antenna height, use of the actual transmitting antenna height and terrain elevation, and assumption of 4/3 Earth radius propagation conditions. Terrain elevation data must be obtained from the U.S. Geological Survey (USGS) 3-second database. All coordinates used in carrying out the required analysis shall be based upon use of NAD-83.

(2) For all other BRS systems using the 2150–2160/62 MHz band, the AWS licensee will determine whether there is an unobstructed signal path (line of sight) to the incumbent licensee's receive station hub using the method prescribed in "Methods for Predicting Interference from Response Station Transmitters and to Response Station Hubs and for Supplying Data on Response Station Systems. MM Docket 97-217," in Amendment of Parts 1, 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions, MM Docket No. 97-217, *Report and Order on Further Reconsideration and Further Notice of Proposed Rulemaking*, 15 FCC Rcd 14566 at 14610, Appendix D.

(b) Any AWS licensee in the 2110–2180 MHz band that causes actual and demonstrable interference to a BRS licensee in the 2150–2160/62 MHz band

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must take steps to eliminate the harmful interference, up to and including relocation of the BRS licensee, regardless of whether it would be required to do so under paragraph (a), of this section.

### Subpart N—600 MHz Band

SOURCE: 79 FR 48539, Aug. 15, 2014, unless otherwise noted.

#### COMPETITIVE BIDDING PROVISIONS

##### § 27.1300 600 MHz band subject to competitive bidding.

As required by section 6403(c) of the Spectrum Act, applications for 600 MHz band initial licenses are subject to competitive bidding. The general competitive bidding procedures set forth in 47 CFR part 1, subpart Q will apply unless otherwise provided in this subpart.

##### § 27.1301 Designated entities in the 600 MHz band.

(a) *Small business.* (1) A small business is an entity that, together with its affiliates, its controlling interests, and the affiliates of its controlling interests, has average gross revenues not exceeding \$55 million for the preceding three (3) years.

(2) A very small business is an entity that, together with its affiliates, its controlling interests, and the affiliates of its controlling interests, has average gross revenues not exceeding \$20 million for the preceding three (3) years.

(b) *Eligible rural service provider.* For purposes of this section, an eligible rural service provider is an entity that meets the criteria specified in § 1.2110(f)(4) of this chapter.

(c) *Bidding credits.* (1) A winning bidder that qualifies as a small business as defined in this section or a consortium of small businesses may use the bidding credit specified in § 1.2110(f)(2)(i)(C) of this chapter. A winning bidder that qualifies as a very small business as defined in this section or a consortium of very small businesses may use the bidding credit specified in § 1.2110(f)(2)(i)(B) of this chapter.

(2) An entity that qualifies as eligible rural service provider or a consortium of rural service providers may use the

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bidding credit specified in § 1.2110(f)(4) of this chapter.

[80 FR 56817, Sept. 18, 2015]

#### COORDINATION/NOTIFICATION REQUIREMENTS

##### § 27.1320 Notification to white space database administrators.

To receive interference protection, 600 MHz licensees shall notify one of the white space database administrators of the areas where they have commenced operation pursuant to §§ 15.713(j)(10) and 15.715(n) of this chapter.

[80 FR 73085, Nov. 23, 2015]

##### § 27.1321 Requirements for operation of base and fixed stations in the 600 MHz downlink band in close proximity to Radio Astronomy Observatories.

(a) Licensees must make reasonable efforts to protect the radio astronomy observatory at Green Bank, WV, Arecibo, PR, and those identified in § 15.712(h)(3) of this chapter as part of the Very Long Baseline Array (VLBA) from interference.

(b) 600 MHz band base and fixed stations in the 600 MHz downlink band within 25 kilometers of VLBA observatories are subject to coordination with the National Science Foundation (NSF) prior to commencing operations. The appropriate NSF contact point to initiate coordination is: Division of Astronomical Sciences, Electromagnetic Spectrum Management Unit, 2415 Eisenhower Avenue, Alexandria, VA 22314; Email: [esm@nsf.gov](mailto:esm@nsf.gov).

(c) Any licensee that intends to operate base and fixed stations in the 600 MHz downlink band in locations near the Radio Astronomy Observatory site located in Green Bank, Pocahontas County, West Virginia, or near the Arecibo Observatory in Puerto Rico, must comply with the provisions in § 1.924 of this chapter.

[79 FR 48538, Aug. 15, 2014. Redesignated at 81 FR 4975, Jan. 29, 2016; 85 FR 38740, June 26, 2020]

**Federal Communications Commission****§ 27.1411****Subpart O—3.7 GHz Service  
(3700–3980 MHz)**

SOURCE: 85 FR 22882, Apr. 23, 2020, unless otherwise noted.

**§ 27.1401 Licenses in the 3.7 GHz Service are subject to competitive bidding.**

Mutually exclusive initial applications for licenses in the 3.7 GHz Service are subject to competitive bidding. The general competitive bidding procedures set forth in 47 CFR part 1, subpart Q, will apply unless otherwise provided in this subpart.

**§ 27.1402 Designated entities in the 3.7 GHz Service.**

(a) *Eligibility for small business provisions*—(1) *Definitions*—(i) *Small business*. A small business is an entity that, together with its affiliates, its controlling interests, and the affiliates of its controlling interests, has average gross revenues not exceeding \$55 million for the preceding five (5) years.

(ii) *Very small business*. A very small business is an entity that, together with its affiliates, its controlling interests, and the affiliates of its controlling interests, has average gross revenues not exceeding \$20 million for the preceding five (5) years.

(2) *Bidding credits*. A winning bidder that qualifies as a small business, as defined in this section, or a consortium of such small businesses as provided in § 1.2110(c)(6) of this chapter, may use a bidding credit of 15 percent, subject to the cap specified in § 1.2110(f)(2)(ii) of this chapter. A winning bidder that qualifies as a very small business, as defined in this section, or a consortium of such very small businesses as provided in § 1.2110(c)(6) of this chapter, may use a bidding credit of 25 percent, subject to the cap specified in § 1.2110(f)(2)(ii) of this chapter.

(b) *Eligibility for rural service provider bidding credit*. A rural service provider, as defined in § 1.2110(f)(4)(i) of this chapter, that has not claimed a small business bidding credit may use the bidding credit of 15 percent specified in § 1.2110(f)(4) of this chapter.

**§ 27.1411 Transition of the 3700–3980 MHz band to the 3.7 GHz Service.**

(a) *Transition of the 3700–3798 MHz Band*. The 3700–3980 MHz band is being transitioned in the lower 48 contiguous states and the District of Columbia from geostationary satellite orbit (GSO) fixed-satellite service (space-to-Earth) and fixed service operations to the 3.7 GHz Service.

(b) *Definitions*—(1) *Incumbent space station operator*. An incumbent space station operator is defined as a space station operator authorized to provide C-band service to any part of the contiguous United States pursuant to an FCC-issued license or grant of market access as of June 21, 2018.

(2) *Eligible space station operator*. For purposes of determining eligibility to receive reimbursement for relocation costs incurred as a result of the transition of FSS operations to the 4000–4200 MHz band, an eligible space station operator may receive reimbursement for relocation costs incurred as a result of the transition of FSS operations to the 4000–4200 MHz band. An eligible space station operator is defined as an incumbent space station operator that has demonstrated as of February 1, 2020, that it has an existing relationship to provide service via C-band satellite transmission to one or more incumbent earth stations in the contiguous United States. Such existing relationships may be directly with the incumbent earth station, or indirectly through content distributors or other entities, so long as the relationship requires the provision of C-band satellite services to one or more specific incumbent earth stations in the contiguous United States.

(3) *Incumbent earth station*. An incumbent earth station for this subpart is defined as an earth station that is entitled to interference protection pursuant to § 25.138(c) of this chapter. An incumbent earth station must transition above 4000 MHz pursuant to this subpart. An incumbent earth station will be able to continue receiving uninterrupted service both during and after the transition.

(4) *Earth station migration*. Earth station migration includes any necessary changes that allow the uninterrupted reception of service by an incumbent

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earth station on new frequencies in the upper portion of the band, including, but not limited to retuning and re-pointing antennas, “dual illumination” during which the same programming is simultaneously downlinked over the original and new frequencies, and the installation of new equipment or software at earth station uplink and/or downlink locations for customers identified for technology upgrades necessary to facilitate the repack, such as compression technology or modulation.

(5) *Earth station filtering.* A passband filter must be installed at the site of each incumbent earth station at the same time or after it has been migrated to new frequencies to block signals from adjacent channels and to prevent harmful interference from licensees in the 3.7 GHz Service. Earth station filtering can occur either simultaneously with, or after, the earth station migration, or can occur at any point after the earth station migration so long as all affected earth stations in a given Partial Economic Area and surrounding areas are filtered prior to a licensee in the 3.7 GHz Service commencing operations.

(6) *Contiguous United States (CONUS).* For the purposes of the rules established in this subpart, contiguous United States consists of the contiguous 48 states and the District of Columbia as defined by Partial Economic Areas Nos. 1–41, 43–211, 213–263, 265–297, 299–359, and 361–411, which includes areas within 12 nautical miles of the U.S. Gulf coastline (see § 27.6(m)). In this context, the rest of the United States includes the Honolulu, Anchorage, Kodiak, Fairbanks, Juneau, Puerto Rico, Guam–Northern Mariana Islands, U.S. Virgin Islands, American Samoa, and the Gulf of Mexico PEAs.

(7) *Relocation Payment Clearinghouse.* A Relocation Payment Clearinghouse is a neutral, independent third-party to administer the cost management for the transition of the 3700–4000 MHz band from the Fixed Satellite Service and Fixed Service to the 3.7 GHz Service.

(8) *Relocation Coordinator.* A Relocation Coordinator is a third party that will ensure that all incumbent space station operators are relocating in a timely matter, and that is selected

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consistent with § 27.1413. The Relocation Coordinator will have technical experience in understanding and working on earth stations and will manage the migration and filtering of incumbent earth stations of eligible space station operators that decline accelerated relocation payment.

### § 27.1412 Transition Plan.

(a) *Relocation deadlines.* Eligible space station operators are responsible for all necessary actions to clear their transponders from the 3700–4000 MHz band (e.g., launching new satellites, re-programming transponders, exchanging customers) and to migrate the existing services of incumbent earth stations in CONUS to the 4000–4200 MHz band (unless the incumbent earth station opts out of the formal relocation process, per paragraph (e) of this section), as of December 5, 2025. Eligible space station operators that fail to do so will be in violation of the conditions of their license authorization and potentially subject to forfeitures and other sanctions.

(b) *Accelerated relocation deadlines.* An eligible space station operator shall qualify for accelerated relocation payments by completing an early transition of the band to the 3.7 GHz Service.

(1) *Phase I deadline.* An eligible space station operator shall receive an accelerated relocation payment if it clears its transponders from the 3700–3820 MHz band and migrates all associated incumbent earth stations in CONUS above 3820 MHz no later than December 5, 2021 (Phase I deadline). To satisfy the Phase I deadline, an eligible space station operator must also provide passband filters to block signals from the 3700–3820 MHz band on all associated incumbent earth stations in PEAs 1–4, 6–10, 12–19, 21–41, and 43–50 no later than December 5, 2021 (see § 27.6(m)). If an eligible space station operator receives an accelerated relocation payment for meeting this deadline, it must also satisfy the second early clearing deadline of December 5, 2023.

(2) *Phase II deadline.* An eligible space station operator shall receive an accelerated relocation payment if it clears its transponders from the 3700–4000 MHz band and migrates incumbent earth stations in CONUS above 4000 MHz no

later than December 5, 2023 (Phase II deadline). To satisfy the Phase II deadline, an eligible space station operator must also provide passband filters on all associated incumbent earth stations in CONUS no later than December 5, 2023.

(3) *Transition delays.* An eligible space station operator shall not be held responsible for circumstances beyond their control related to earth station migration or filtering.

(i) An eligible space station operator must submit a notice of any incumbent earth station transition delays to the Wireless Telecommunications Bureau within 7 days of discovering an inability to accomplish the assigned earth station transition task. Such a request must include supporting documentation to allow for resolution as soon as practicable and must be submitted before the accelerated relocation deadlines.

(ii) [Reserved]

(4) *Responsibility for meeting accelerated relocation deadlines.* An eligible space station operator's satisfaction of the accelerated relocation deadlines shall be determined on an individual basis.

(c) *Accelerated relocation election.* An eligible space station operator may elect to receive accelerated relocation payments to transition the 3700–4000 MHz band to the 3.7 GHz Service according to the Phase I and Phase II deadlines via a written commitment by filing an accelerated relocation election in GN Docket No. 18-122 no later than May 29, 2020.

(1) The Wireless Telecommunications Bureau will prescribe the precise form of such election via Public Notice no later than May 12, 2020.

(2) Each eligible space station operator that makes an accelerated relocation election will be required, as part of its filing of this accelerated relocation election, to commit to paying the administrative costs of the Clearinghouse until the Commission awards licenses to the winning bidders in the auction, at which time those administrative costs will be repaid to those space station operators.

(d) *Transition Plan.* Eligible space station operators must file with the Commission in GN Docket No. 18-122 no

later than June 12, 2020, a Transition Plan that describes the actions that must be taken to clear transponders on space stations and to migrate and filter earth stations. Eligible space station operators must make any necessary updates or resolve any deficiencies in their individual Transition Plans by August 14, 2020.

(1) The Transition Plan must detail the eligible space station operator's individual timeline and necessary actions for clearing its transponders from the 3700–4000 MHz band, including:

(i) All existing space stations with operations that will need to be transitioned to operations above 4000 MHz;

(ii) The number of new satellites, if any, that the space station operator will need to launch in order to maintain sufficient capacity post-transition, including detailed descriptions of why such new satellites are necessary;

(iii) The specific grooming plan for migrating existing services above 4000 MHz, including the pre- and post-transition frequencies that each customer will occupy;

(iv) Any necessary technology upgrades or other solutions, such as video compression or modulation, that the space station operator intends to implement;

(v) The number and location of incumbent earth stations antennas currently receiving the space station operator's transmissions that will need to be transitioned above 4000 MHz;

(vi) An estimate of the number and location of incumbent earth station antennas that will require retuning and/or repointing in order to receive content on new transponder frequencies post-transition; and

(vii) The specific timeline by which the space station operator will implement the actions described in its plan including any commitments to satisfy an early clearing.

(2) To the extent that incumbent earth stations are not accounted for in eligible space station operators' Transition Plans, the Relocation Coordinator must prepare an Earth Station Transition Plan for such incumbent earth stations and may require each associated space station operator to

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file the information needed for such a plan with the Relocation Coordinator.

(i) Where space station operators do not elect to clear by the accelerated relocation deadlines and therefore are not responsible for earth station relocation, the Earth Station Transition Plan must provide timelines that ensure all earth station relocation is completed no later than the relocation deadline.

(ii) The Relocation Coordinator will describe and recommend the respective responsibility of each party for earth station migration and filtering obligations in the Earth Station Transition Plan and assist incumbent earth stations in transitioning including, for example, by installing filters or hiring a third party to install such filters to the extent necessary.

(e) *Incumbent earth station opt-out.* An incumbent earth station within the contiguous United States may opt out of the formal relocation process and accept a lump sum payment equal to the estimated reasonable transition costs of earth station migration and filtering, as determined by the Wireless Telecommunications Bureau, in lieu of actual relocation costs. Such an incumbent earth station is responsible for coordinating with the relevant space station operator as necessary and performing all relocation actions on its own, including switching to alternative transmission mechanisms such as fiber, and it will not receive further reimbursement for any costs exceeding the lump sum payment. An incumbent earth station electing to opt out must inform the appropriate space station operator(s) and the Relocation Coordinator that earth station migration and filtering will not be necessary for the relevant earth station site and must coordinate with operators to avoid any disruption of video and radio programming.

(f) *Space station status reports.* On a quarterly basis, beginning December 31, 2020: Each eligible space station operator must provide a status report of its clearing efforts. Eligible space station operators may file joint status reports.

(g) *Certification of accelerated relocation.* Each eligible space station operator must file a timely certification

that it has completed the necessary clearing actions to satisfy each accelerated relocation deadline. The certification must be filed once the eligible space station operator completes its obligations but no later than the applicable accelerated relocation deadline. The Wireless Telecommunication Bureau will prescribe the form of such certification.

(1) The Bureau, Clearinghouse, and relevant stakeholders will have the opportunity to review the certification of accelerated relocation and identify potential deficiencies. The Wireless Telecommunications Bureau will prescribe the form of any challenges by relevant stakeholders as to the validity of the certification and will establish the process for how such challenges will impact the incremental decreases in the accelerated relocation payment as set forth in § 27.1422(d).

(2) If credible challenges as to the space station operator's satisfaction of the relevant deadline are made, the Bureau will issue a public notice identifying such challenges and will render a final decision as to the validity of the certification no later than 60 days from its filing. Absent notice from the Bureau of any such deficiencies within 30 days of the filing of the certification, the certification of accelerated relocation will be deemed validated.

(h) *Delegated authority.* The Wireless Telecommunications Bureau is delegated the role of providing clarifications or interpretations to eligible space station operators of the Commission's orders for all aspects of the transition.

### § 27.1413 Relocation Coordinator.

(a) *Search committee.* If eligible space station operators elect to receive accelerated relocation payments no later than May 29, 2020, so that a supermajority (80%) of accelerated relocation payments are accepted, each such electing eligible space station operator shall be eligible to appoint one member to a search committee that will seek proposals for a third-party with technical experience in understanding and working on earth stations to serve as a Relocation Coordinator and to manage the migration and filtering of incumbent earth stations of eligible space

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station operators that decline accelerated relocation payment.

(1) The search committee should proceed by consensus; however, if a vote on selection of a Relocation Coordinator is required, it shall be by a supermajority (80%).

(i) The search committee shall notify the Commission of its choice of Relocation Coordinator.

(ii) The Wireless Telecommunications Bureau shall issue a Public Notice inviting comment on whether the entity selected satisfies the criteria established in paragraph (b) of this section and issue a final order announcing whether the criteria has been satisfied;

(iii) Should the Wireless Telecommunications Bureau be unable to find the criteria have been satisfied, the selection process will start over and the search committee will submit a new proposed entity.

(2) If eligible space station operators select a Relocation Coordinator, they shall be responsible for paying its costs.

(3) In the event that the search committee fails to select a Relocation Coordinator and to notify the Commission by July 31, 2020, or in the case that at least 80% of accelerated relocation payments are not accepted (and thus accelerated relocation is not triggered):

(i) The search committee will be dissolved without further action by the Commission.

(ii) The Commission will initiate a procurement of a Relocation Coordinator to facilitate the transition. Specifically, the Office of the Managing Director will initiate the procurement, and the Wireless Telecommunications Bureau will take all other necessary actions to meet the accelerated relocation deadlines (to the extent applicable to any given operator) and the relocation deadline.

(iii) In the case that the Wireless Telecommunications Bureau selects the Relocation Coordinator, overlay licensees will, collectively, pay for the services of the Relocation Coordinator and staff. The Relocation Coordinator shall submit its own reasonable costs to the Relocation Clearinghouse, who will then collect payments from overlay licensees. It shall also provide addi-

tional financial information as requested by the Bureau to satisfy the Commission's oversight responsibilities and/or agency specific/government-wide reporting obligations.

(b) *Relocation Coordinator criteria.* The Relocation Coordinator must be able to demonstrate that it has the requisite expertise to perform the duties required, which will include:

(1) Coordinating the schedule for clearing the band;

(2) Performing engineering analysis, as necessary to determine necessary earth station migration actions;

(3) Assigning obligations, as necessary, for earth station migrations and filtering;

(4) Coordinating with overlay licensees throughout the transition process;

(5) Assessing the completion of the transition in each PEA and determining overlay licensees' ability to commence operations; and

(6) Mediating scheduling disputes.

(c) *Relocation Coordinator duties.* The Relocation Coordinator shall:

(1) Establish a timeline and take actions necessary to migrate and filter incumbent earth stations to ensure uninterrupted service during and following the transition.

(2) Review the Transition Plans filed by all eligible space station operators and recommend any changes to those plans to the Commission to the extent needed to ensure a timely transition.

(3) To the extent that incumbent earth stations are not accounted for in eligible space station operators' Transition Plans, the Relocation Coordinator must include those incumbent earth stations in an Earth Station Transition Plan.

(i) May require each associated space station operator to file the information needed for such a plan with the Relocation Coordinator.

(ii) Will describe and recommend the respective responsibility of each party for earth station migration obligations in the Earth Station Transition Plan and assist incumbent earth stations in transitioning including, for example, by installing filters or hiring a third party to install such filters to the extent necessary.

(4) Coordinate its operations with overlay licensees.

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(5) Be responsible for receiving notice from earth station operators or other satellite customers of any disputes related to comparability of facilities, workmanship, or preservation of service during the transition and shall subsequently notify the Wireless Telecommunications Bureau of the dispute and provide recommendations for resolution.

(6) Must make real time disclosures of the content and timing of and the parties to communications, if any, from or to applicants to participate in the competitive bidding, as defined by § 1.2105(c)(5)(i) of this chapter whenever the prohibition in § 1.2105(c) of this chapter applies to competitive bidding for licenses in the 3.7 GHz Service.

(7) Incumbent space station operators must cooperate in good faith with the Relocation Coordinator throughout the transition.

(d) *Status reports.* On a quarterly basis, beginning December 31, 2020, the Relocation Coordinator must provide a report on the overall status of clearing efforts.

(e) *Document requests.* The Wireless Telecommunications Bureau, in consultation with the Office of Managing Director, may request any documentation from the Relocation Coordinator necessary to provide guidance or carry out oversight.

### § 27.1414 Relocation Payment Clearinghouse.

A Relocation Payment Clearinghouse shall be selected and serve to administer the cost-related aspects of the transition in a fair, transparent manner, pursuant to Commission rules and oversight, to mitigate financial disputes among stakeholders, and to collect and distribute payments in a timely manner for the transition of the 3700–4000 MHz band to the 3.7 GHz Service.

(a) *Selection process.* (1) A search committee will select the Relocation Payment Clearinghouse. The search committee shall consist of member appointed by each of following nine entities: ACA Connects, Intelsat, SES, Eutelsat S.A., National Association Broadcasters, National Cable Television Association, CTIA, Competitive Carriers Association, and WISPA.

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(2) The search committee shall convene no later than June 22, 2020 and shall notify the Commission of the detailed selection criteria for the position of Relocation Payment Clearinghouse no later than June 1, 2020. Such criteria must be consistent with the qualifications, roles, and duties of the Relocation Payment Clearinghouse specified in this subpart. The Wireless Telecommunications Bureau (Bureau) is directed, on delegated authority, to issue a Public Notice notifying the public that the search committee has published criteria, outlining submission requirements, and providing the closing dates for the selection of the Relocation Payment Clearinghouse and source (*i.e.*, web page).

(3) The search committee should proceed by consensus; however, if a vote on selection of a Relocation Payment Clearinghouse is required, it shall be by a majority.

(4) In the event that the search committee fails to select a Relocation Payment Clearinghouse and to notify the Commission by July 31, 2020, the search committee will be dissolved without further action by the Commission. In the event that the search committee fails to select a Clearinghouse and to notify the Commission by July 31, 2020, two of the nine members of the search committee will be dropped therefrom by lot, and the remaining seven members of the search committee shall select a Clearinghouse by majority vote by August 14, 2020.

(5) During the course of the Relocation Payment Clearinghouse's tenure, the Commission will take such measures as are necessary to ensure timely compliance, including, should it become necessary, issuing subsequent public notices to select new Relocation Payment Clearinghouses(s).

(b) *Selection criteria.* (1) The Relocation Payment Clearinghouse must be a neutral, independent entity with no conflicts of interest (organizational or personal) on the part of the organization or its officers, directors, employees, contractors, or significant subcontractors.

(i) Organizational conflicts of interest means that because of other activities or relationships with other entities, the Relocation Payment Clearinghouse, its contractors, or significant subcontractors are unable or potentially unable to render impartial services, assistance or advice; the Relocation Payment Clearinghouse's objectivity in performing its function is or might be otherwise impaired; or the Relocation Payment Clearinghouse might gain an unfair competitive advantage.

(ii) Personal conflict of interest means a situation in which an employee, officer, or director of the Relocation Payment Clearinghouse, the Relocation Payment Clearinghouse's contractors or significant subcontractors has a financial interest, personal activity, or relationship that could impair that person's ability to act impartially and in the best interest of the transition when performing their assigned role, or is engaged in self-dealing.

(2) The Relocation Payment Clearinghouse must be able to demonstrate that it has the requisite expertise to perform the duties required, which will include collecting and distributing relocation and accelerated relocation payments, auditing incoming and outgoing estimates, mitigating cost disputes among parties, and generally acting as clearinghouse.

(3) The search committee should ensure that the Relocation Payment Clearinghouse meets relevant best practices and standards in its operation to ensure an effective and efficient transition. First, the Relocation Payment Clearinghouse should be required, in administering the transition, to:

(i) Engage in strategic planning and adopt goals and metrics to evaluate its performance;

(ii) Adopt internal controls for its operations;

(iii) Utilize enterprise risk management practices; and

(iv) Use best practices to protect against improper payments and to prevent fraud, waste and abuse in its handling of funds. The Relocation Payment Clearinghouse must be required to create written procedures for its operations, using the Government Ac-

countability Office's Green Book to serve as a guide in satisfying such requirements.

(4) The search committee must also ensure that the Relocation Payment Clearinghouse adopts robust privacy and data security best practices in its operations, given that it will receive and process information critical to ensuring a successful and expeditious transition.

(i) When the prohibition in § 1.2105(c) of this chapter applies to competitive bidding for licenses in the 3.7 GHz service, the Relocation Payment Clearinghouse must make real time disclosures of the content and timing of and the parties to communications, if any, from or to applicants to participate in the competitive bidding, as defined by § 1.2105(c)(5)(i) of this chapter.

(ii) The Relocation Payment Clearinghouse should also comply with, on an ongoing basis, all applicable laws and Federal Government guidance on privacy and information security requirements such as relevant provisions in the Federal Information Security Management Act, National Institute of Standards and Technology publications, and Office of Management and Budget guidance.

(iii) The Relocation Payment Clearinghouse must hire a third-party firm to independently audit and verify, on an annual basis, the Relocation Payment Clearinghouse's compliance with privacy and information security requirements and to provide recommendations based on any audit findings; to correct any negative audit findings and adopt any additional practices suggested by the auditor; and to report the results to the Bureau.

(c) *Reports and information.* (1) The Relocation Payment Clearinghouse must provide quarterly reports that detail the status of reimbursement funds available for clearing obligations, the relocation and accelerated relocation payments issued, the amounts collected from overlay licensees, and any certifications filed by incumbents. The reports must account for all funds spent to transition the 3.7 GHz Service Band, including the Relocation Payment Clearinghouse's own expenses, *e.g.*, salaries and fees paid to law firms,

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accounting firms, and other consultants. The report shall include descriptions of any disputes and the manner in which they were resolved.

(2) The Relocation Payment Clearinghouse shall provide to the Office of the Managing Director and the Wireless Telecommunications Bureau, by March 1 of each year, an audited statement of funds expended to date, including salaries and expenses of the Clearinghouse.

(3) The Relocation Clearing House shall provide to the Wireless Telecommunications Bureau additional information upon request.

**§ 27.1415 Documentation of expenses.**

Parties seeking reimbursement of compensable relocation costs must document their actual expenses and the Relocation Payment Clearinghouse, or a third-party on behalf of the Relocation Payment Clearinghouse, may conduct audits of entities that receive reimbursements. Entities receiving reimbursements must make available all relevant documentation upon request from the Relocation Payment Clearinghouse or its contractor.

**§ 27.1416 Reimbursable costs.**

(a) *Determining reimbursable costs.* The Relocation Payment Clearinghouse shall review reimbursement requests to determine whether they are reasonable and to ensure they comply with the requirements adopted in this sub-part. The Relocation Payment Clearinghouse shall give parties the opportunity to supplement any reimbursement claims that the Relocation Payment Clearinghouse deems deficient. Reimbursement submissions that fall within the estimated range of costs in the cost category schedule issued by the Wireless Telecommunications Bureau shall be presumed reasonable. If the Relocation Payment Clearinghouse determines that the amount sought for reimbursement is unreasonable, it shall notify the party of the amount it deems eligible for reimbursement. The Wireless Telecommunications Bureau shall make further determinations related to reimbursable costs, as necessary, throughout the transition process.

(b) *Payment procedures.* Following a determination of the reimbursable amount, the Relocation Payment Clearinghouse shall incorporate approved claims into invoices, which it shall issue to each licensee indicating the amount to be paid. The Relocation Payment Clearinghouse shall pay approved claims within 30 days of invoice submission. The Relocation Payment Clearinghouse shall also include its own reasonable costs in the invoices.

**§ 27.1417 Reimbursement fund.**

The Relocation Payment Clearinghouse will establish and administer an account that will fund the costs for the transition of this band to the 3.7 GHz Service after an auction for the 3.7 GHz Service concludes. Licensees in the 3.7 GHz Service shall pay their *pro rata* share of six months' worth of estimated transition costs into a reimbursement fund, administered by the Relocation Payment Clearinghouse, shortly after the auction and then every six months until the transition is complete. The Relocation Payment Clearinghouse shall draw from the reimbursement fund to pay approved, invoiced claims, consistent with § 27.1418. If the reimbursement fund does not have sufficient funds to pay approved claims before a six-month replenishment, the Relocation Payment Clearinghouse shall provide 3.7 GHz Service licensees with 30 days' notice of the additional *pro rata* shares they must contribute. At the end of the transition, the Relocation Payment Clearinghouse shall refund any unused amounts to 3.7 GHz Service licensees according to their *pro rata* shares.

**§ 27.1418 Payment obligations.**

(a) Each eligible space station operator is responsible for the payment of its own satellite transition costs until the auction winners have been announced.

(b) Licensees in the 3.7 GHz Service shall pay their *pro rata* share of:

(1) The reasonable costs of the Relocation Payment Clearinghouse and, in the event the Wireless Telecommunications Bureau selects the Relocation Coordinator, the services of the Relocation Coordinator and its staff;

(2) The actual relocation costs, provided that they are not unreasonable, for eligible space station operators and incumbent fixed service licensees; the actual transition costs, provided they are not unreasonable, associated with the necessary migration and filtering of incumbent earth stations;

(3) Any lump sum payments, if elected by incumbent earth station operators in lieu of actual relocation costs; and

(4) Specified accelerated relocation payments for space station operators that clear on an accelerated time-frame. Licensees in the 3.7 GHz Service shall be responsible for the full costs of space station transition, the Relocation Payment Clearinghouse, and, if selected and established by the Wireless Telecommunications Bureau, the Relocation Coordinator, based on their *pro rata* share of the total auction bids of each licensee's gross winning bids in the auction overall; they shall be responsible for incumbent earth station and incumbent fixed service transition costs in a Partial Economic Area based on their *pro rata* share of the total gross bids for that Partial Economic Area.

(c) Following the auction, and every six months until the close of the transition, licensees in the 3.7 GHz Service shall submit their portion of estimated transition costs to a reimbursement fund, and the Relocation Payment Clearinghouse will reimburse parties incurring transition costs. If actual costs exceed estimated costs, the Relocation Payment Clearinghouse shall perform a true-up for additional funds from 3.7 GHz Service licensees.

(d) If 3.7 GHz band license is relinquished to the Commission prior to all relocation cost reimbursements and accelerated relocation payments being paid, the remaining payments will be distributed among other similarly situated 3.7 GHz band licensees. If a new license is issued for the previously relinquished rights prior to final payments

becoming due, the new 3.7 GHz band licensee will be responsible for the same *pro rata* share of relocation costs and accelerated relocation payments as the initial 3.7 GHz band license. If a 3.7 GHz band licensee sells its rights on the secondary market, the new 3.7 GHz band licensee will be obligated to fulfill all payment obligations associated with the license.

**§ 27.1419 Lump sum payment for earth station opt out.**

The Wireless Telecommunications Bureau shall announce a lump sum that will be available per each incumbent earth station that elects to opt out from the formal relocation process, per §27.1412(e), as well as the process for electing lump sum payments. Incumbent earth station owners must make the lump sum payment election no later than 30 days after the Bureau announces the lump sum payment amounts, and must indicate whether each incumbent earth station for which it elects the lump sum payment will be transitioned to the upper 200 megahertz in order to maintain C-band services or will discontinue C-band services.

**§ 27.1420 Cost-sharing formula.**

(a) For space station transition and Relocation Payment Clearinghouse costs, and in the event the Wireless Telecommunications Bureau selects a Relocation Coordinator pursuant to §27.1413(a), Relocation Coordinator costs, the *pro rata* share of each flexible-use licensee will be the sum of the final clock phase prices ( $P$ ) for the set of all license blocks that a bidder wins divided by the total final clock phase prices for all  $N$  license blocks sold in the auction. To determine a licensee's reimbursement obligation ( $RO$ ), that *pro rata* share would then be multiplied by the total eligible reimbursement costs ( $RC$ ). Mathematically, this is represented as:

$$RO = \left( \frac{\sum_{i \in I} P_i}{\sum_{j=1}^N P_j} \right) \times RC$$

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(b) For incumbent earth stations and fixed service incumbent licensee transition costs, a flexible-use licensee's *pro rata* share will be determined on a PEA-specific basis, based on the final clock phase prices for the license blocks it won in each PEA. To calculate the *pro rata* share for incumbent earth station transition costs in a given PEA, the same formula identified in § 27.1412(a) will be used, except  $I$  is the set of licenses a bidder won in the PEA,  $N$  is the total blocks sold in the PEA and  $RC$  is the PEA-specific earth station and fixed service relocation costs.

(c) For the Phase I accelerated relocation payments, the *pro rata* share of each flexible use licensee of the 3.7 to 3.8 MHz in the 46 PEAs that are cleared by December 5, 2021, will be the sum of the final clock phase prices ( $P$ ) that the licensee won divided by the total final clock phase prices for all  $M$  license blocks sold in those 46 PEAs. To determine a licensee's  $RO$  the *pro rata* share would then be multiplied by the total accelerated relocation payment due for Phase I,  $A1$ . Mathematically, this is represented as:

$$RO = \left( \frac{\sum_{i \in I} P_i}{\sum_{j=1}^M P_j} \right) \times A1$$

(d) For Phase II accelerated relocation payments, the *pro rata* share of each flexible use licensee will be the sum of the final clock phase prices ( $P$ ) that the licensee won in the entire auction, divided by the total final clock phase prices for all  $N$  license blocks

sold in the auction. To determine a licensee's  $RO$  the *pro rata* share would then be multiplied by the total accelerated relocation payment due for Phase II,  $A2$ . Mathematically, this is represented as:

$$RO = \left( \frac{\sum_{i \in I} P_i}{\sum_{j=1}^N P_j} \right) \times A2$$

**§ 27.1421 Disputes over costs and cost sharing.**

(a) Parties disputing a cost estimate, cost invoice, or payment or cost-sharing obligation must file an objection with the Relocation Payment Clearinghouse.

(b) The Relocation Payment Clearinghouse may mediate any disputes regarding cost estimates or payments that may arise in the course of band re-configuration; or refer the disputant parties to alternative dispute resolution fora.

(1) Any dispute submitted to the Relocation Payment Clearinghouse, or other mediator, shall be decided within 30 days after the Relocation Payment Clearinghouse has received a submis-

sion by one party and a response from the other party.

(2) Thereafter, any party may seek expedited non-binding arbitration, which must be completed within 30 days of the recommended decision or advice of the Relocation Payment Clearinghouse or other mediator.

(3) The parties will share the cost of this arbitration if it is before the Relocation Payment Clearinghouse.

(c) Should any issues still remain unresolved, they may be referred to the Bureau within ten days of recommended decision or advice of the Relocation Payment Clearinghouse or other mediator and any decision of the Relocation Payment Clearinghouse can be appealed to the Chief of the Bureau.

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(1) When referring an unresolved matter, the Relocation Payment Clearinghouse shall forward the entire record on any disputed issues, including such dispositions thereof that the Relocation Payment Clearinghouse has considered.

(2) Upon receipt of such record and advice, the Bureau will decide the disputed issues based on the record submitted. The Bureau is directed to resolve such disputed issues or designate them for an evidentiary hearing before an Administrative Law Judge. If the Bureau decides an issue, any party to the dispute wishing to appeal the decision may do so by filing with the Commission, within ten days of the effective date of the initial decision, a Petition for *de novo* review; whereupon the matter will be set for an evidentiary hearing before an Administrative Law Judge.

(3) Parties seeking *de novo* review of a decision by the Bureau are advised

that, in the course of the evidentiary hearing, the Commission may require complete documentation relevant to any disputed matters; and, where necessary, and at the presiding judge's discretion, require expert engineering, economic or other reports or testimony. Parties may therefore wish to consider possibly less burdensome and expensive resolution of their disputes through means of alternative dispute resolution.

### § 27.1422 Accelerated relocation payment.

(a) Eligible space station operators that meet the applicable early-clearing benchmark(s), as confirmed in their Certification of Accelerated Relocation set-forth in § 27.1412(g), will be eligible for their respective accelerated relocation payment.

(b) The Relocation Payment Clearinghouse will distribute the accelerated relocation payments accordingly:

TABLE 1 TO PARAGRAPH (b)—ACCELERATED RELOCATION PAYMENT BY OPERATOR

	Payment	Phase I payment	Phase II payment
Intelsat .....	\$4,865,366,000	\$1,197,842,000	\$3,667,524,000
SES .....	3,968,133,000	976,945,000	2,991,188,000
Eutelsat .....	506,978,000	124,817,000	382,161,000
Telesat .....	344,400,000	84,790,000	259,610,000
Star One .....	15,124,000	3,723,000	11,401,000
<b>Totals .....</b>	<b>9,700,001,000</b>	<b>2,388,117,000</b>	<b>7,311,884,000</b>

(c) The Relocation Payment Clearinghouse shall promptly notify 3.7 GHz Service licensees following validation of the certification of accelerated relocations as set-forth in Section 27.1412(g). 3.7 GHz Service licensees shall pay the accelerated relocation payments to the Clearinghouse within 60 days of the notice that eligible space station operators have met their respective accelerated clearing benchmark. The Clearinghouse shall disburse accelerated relocation payments to relevant space station operators within seven days of receiving the payment from overlay licensees.

(d) For eligible space station operators that fail to meet either the Phase I or Phase II benchmarks as of the relevant accelerated relocation deadline, the accelerated relocation payment

will be reduced according to the following schedule of declining accelerated relocation payments for the six months following the relevant deadline:

TABLE 2 TO PARAGRAPH (d)

Date of completion	Incremental reduction (percent)	Accelerated relocation payment (percent)
By Deadline .....	.....	100
1-30 Days Late .....	5	95
31-60 Days Late .....	5	90
61-90 Days Late .....	10	80
91-120 Days Late .....	10	70
121-150 Days Late .....	20	50
151-180 Days Late .....	20	30
181+ Days Late .....	30	0

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### § 27.1423 Protection of incumbent operations.

(a) To protect incumbent earth stations from out-of-band emissions from fixed stations, base stations and mobiles, the power flux density (PFD) of any emissions within the 4000–4200 MHz band must not exceed  $-124$  dBW/m $^2$ /MHz as measured at the earth station antenna.

(b) To protect incumbent earth stations from blocking, the power flux density (PFD) of any emissions within the 3700–3980 MHz band must not exceed  $-16$  dBW/m $^2$ /MHz as measured at the earth station antenna.

(c) All 3.7 GHz Service licensees, prior to initiating operations from any base or fixed station, must coordinate cochannel frequency usage with all incumbent Telemetry, Tracking, and Command (TT&C) earth stations within a 70 km radius. The licensee must ensure that the aggregated power from its operations meets an interference to noise ratio (I/N) of  $-6$  dB to the TT&C earth station receiver. A base station's operation will be defined as cochannel when any of the 3.7 GHz Service licensee's authorized frequencies are separated from the center frequency of the TT&C earth station by less than 150% of the maximum emission bandwidth in use by the TT&C earth station.

(d) All 3.7 GHz Service licensees operating on an adjacent channel to an incumbent TT&C earth station must ensure that the aggregated power from its operations meets an interference to noise ratio (I/N) of  $-6$  dB to the TT&C earth station receiver.

(e) To protect incumbent TT&C earth stations from blocking, the power flux density (PFD) of any emissions within the 3700–3980 MHz band must not exceed  $-16$  dBW/m $^2$ /MHz as measured at the TT&C earth station antenna.

### § 27.1424 Agreements between 3.7 GHz Service licensees and C-Band earth station operators.

The PFD limits in § 27.1423 may be modified by the private agreement of licensees of 3.7 GHz Service and entities operating earth stations in the 4000–4200 MHz band or TT&C operations in the 3700–3980 MHz band. A licensee of the 3.7 GHz Service who is a party to such an agreement must maintain a

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copy of the agreement in its station files and disclose it, upon request, to prospective license assignees, transferees, or spectrum lessees, and to the Commission.

## Subpart P—Regulations Governing Licensing and Use of 900 MHz Broadband Service in the 897.5–900.5 MHz and 936.5–939.5 MHz Bands

SOURCE: 85 FR 43134, July 16, 2020, unless otherwise noted.

### § 27.1500 Scope.

This subpart sets out the regulations governing the licensing and operations of 900 MHz broadband systems operating in the 897.5–900.5/936.5–939.5 MHz band. It includes eligibility requirements and operational and technical standards for stations licensed in this band. It also supplements the rules regarding application procedures contained in part 1, subpart F of this chapter. The rules in this subpart are to be read in conjunction with the applicable requirements contained elsewhere in this part; however, in case of conflict, the provisions of this subpart shall govern with respect to licensing and operation in this frequency band.

### § 27.1501 Definitions.

Terms used in this subpart shall have the following meanings:

*900 MHz broadband.* The 900 MHz broadband systems in the 897.5–900.5/936.5–939.5 MHz band licensed by the Commission pursuant to the provisions of this subpart.

*900 MHz broadband licensee.* An entity that holds a 900 MHz broadband license issued pursuant to this subpart.

*900 MHz broadband segment.* The segment of realigned 900 MHz spectrum (*i.e.*, the 897.5–900.5/936.5–939.5 MHz band) licensed by the Commission pursuant to the provisions of this subpart.

*900 MHz narrowband segment.* The segments of realigned 900 MHz spectrum (*i.e.*, the 896–897.5/935–936.5 MHz and 900.5–901/939.5–940 MHz bands (Paired channels 1–119 and 361–399)) designated for narrowband operations and licensed pursuant to 47 CFR part 90, subpart S.

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*Complex system.* A covered incumbent's system that consists of 45 or more functionally integrated sites.

*County.* For purposes of this part, counties shall be defined using the United States Census Bureau's data reflecting county legal boundaries and names valid through January 1, 2017.

*Covered incumbent.* Any 900 MHz site-based licensee in the broadband segment that is required under § 90.621(b) to be protected by a broadband licensee with a base station at any location within the county, or any 900 MHz geographic-based SMR licensee in the broadband segment whose license area completely or partially overlaps the county.

*Eligibility Certification.* A filing made to the Commission as part of the prospective broadband licensee's application for a 900 MHz broadband license that demonstrates satisfaction of the eligibility restrictions.

*License area.* The geographic component of a 900 MHz broadband license. A license area consists of one county.

*Power spectral density (PSD).* The power of an emission in the frequency domain, such as in terms of ERP or EIRP, stated per unit bandwidth, *e.g.*, watts/MHz.

*Site-channel.* A channel licensed at a particular location.

*Transition plan.* A filing made to the Commission as part of the prospective broadband licensee's application for a 900 MHz broadband license that includes a plan for transitioning the band in the particular county.

*Transitioned market.* See section 90.7 of part 90 of this chapter.

### § 27.1502 Permanent discontinuance of 900 MHz broadband licenses.

A 900 MHz broadband licensee that permanently discontinues service as defined in § 1.953 must notify the Commission of the discontinuance within 10 days by filing FCC Form 601 requesting license cancelation. An authorization will automatically terminate, without specific Commission action, if service is permanently discontinued as defined in this chapter, even if a licensee fails to file the required form requesting license cancelation.

### § 27.1503 Broadband license eligibility and application requirements.

(a) *Eligibility.* For an applicant to be eligible for a broadband license in a county, it must:

(1) Hold the licenses for more than 50% of the total amount of licensed 900 MHz SMR (site-based or geographically licensed) and B/L/T (site-based) spectrum for the relevant county including credit for spectrum included in an application to acquire or relocate covered incumbents filed with the Commission on or after March 14, 2019;

(2) Hold spectrum in the broadband segment or reach an agreement to clear through acquisition or relocation, including credit for spectrum included in an application to acquire or relocate covered incumbents filed with the Commission on or after March 14, 2019, or demonstrate how it will provide interference protection to, covered incumbent licensees collectively holding licenses in the broadband segment for at least 90% of the site-channels in the county and within 70 miles of the county boundary, and geographically licensed channels where the license area completely or partially overlaps the county. To provide interference protection, an applicant may:

(i) Protect site-based covered incumbent(s) through compliance with minimum spacing criteria set forth in § 90.621(b) of this chapter;

(ii) Protect site-based covered incumbent(s) through new or existing letters of concurrence agreeing to lesser base station separations as set forth in § 90.621(b); and/or

(iii) Protect geographically based covered incumbent(s) through a private contractual agreement.

(3) If any site of a complex system is located within the county and/or within 70 miles of the county boundary, an applicant must either hold the license for that site or reach an agreement to acquire, relocate, or protect it in order to demonstrate eligibility.

(4) The applicant may use its current 900 MHz holdings in the narrowband segment to relocate covered incumbents. Spectrum used for the purpose of relocating incumbent(s) may not exceed the incumbent's current spectrum holdings in the relevant county, unless additional channels are necessary to

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achieve equivalent coverage and/or capacity.

(b) *Application.* (1) Applications must be filed in accordance with part 1, subpart F of this chapter.

(2) An applicant for a 900 MHz broadband license must submit with its application an Eligibility Certification that:

(i) Lists the licenses the applicant holds in the 900 MHz band to demonstrate that it holds the licenses for more than 50% of the total licensed 900 MHz spectrum, whether SMR or B/ILT, for the relevant county including credit for spectrum included in an application to acquire or relocate any covered incumbents filed on or after March 14, 2019;

(ii) A statement that it has filed a Transition Plan detailing how it holds spectrum in the broadband segment and/or has reached an agreement to clear through acquisition or relocation (including credit for spectrum included in an application to acquire or relocate covered incumbents filed with the Commission on or after March 14, 2019), or demonstrate how it will provide interference protection to, covered incumbent licensees collectively holding licenses in the broadband segment for at least 90% of the site-channels in the county and within 70 miles of the county boundary, and geographically licensed channels where the license area completely or partially overlaps the county.

(3) An applicant for a 900 MHz broadband license must submit with its application a Transition Plan that provides:

(i) A showing of one or more of the following:

(A) Agreement by covered incumbents to relocate from the broadband segment;

(B) Protection of site-based covered incumbents through compliance with minimum spacing criteria;

(C) Protection of site-based covered incumbents through new or existing letters of concurrence agreeing to lesser base station separations;

(D) Protection of geographically-based covered incumbents through private contractual agreements; and/or

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(E) Evidence that it holds licenses for the site-channels and/or geographically licensed channels.

(ii) Descriptions of the agreements between the prospective broadband licensee and all covered incumbents collectively holding licenses for at least 90% of site-channels within the county and within 70 miles of the county boundary, and geographically licensed channels where the license area completely or partially overlaps the county.

(iii) Descriptions in detail of all information and actions necessary to accomplish the realignment, as follows:

(A) The applications that the parties to the agreements will file for spectrum in the narrowband segment in order to relocate or repack licensees;

(B) A description of how the applicant will provide interference protection to, and/or acquire or relocate from the broadband segment covered incumbents collectively holding licenses for at least 90% of site-channels within 70 miles of the county and within 70 miles of the county boundary and/or evidence that it holds licenses for the site-channels and/or geographically licensed channels.

(C) Any rule waivers or other actions necessary to implement an agreement with a covered incumbent; and

(D) Such additional information as may be required.

(iv) A certification from an FCC-certified frequency coordinator that the Transition Plan's representations can be implemented consistent with Commission rules. The certification must establish that the relocations proposed therein take into consideration all relevant covered incumbents and are consistent with the existing part 90 interference protection criteria if the covered incumbent is site-based, and include any private contractual agreements between the prospective broadband licensee and a geographically-licensed covered incumbent.

(4) Applicants seeking to transition multiple counties may simultaneously file a single Transition Plan with each of its county-based applications.

(c) *Anti-windfall provisions.* (1) The applicant must return to the Commission all of its licensed 900 MHz SMR and B/ILT spectrum, up to six megahertz, for

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the county in which it seeks a broadband license. The applicant will be required to file, within 15 days of filing its broadband license application, an application(s) to cancel all of its 900 MHz SMR and B/ILT spectrum, up to six megahertz, conditioned upon Commission grant of its application.

(2) If the applicant relinquishes less than six megahertz of spectrum in accordance with paragraph (c)(1) of this section, then the applicant must remit an anti-windfall payment prior to the grant of the 900 MHz broadband license. Payment must be made through a monetary payment to the U.S. Treasury.

### § 27.1504 Mandatory relocation.

(a) Subject to paragraph (b) of this section, broadband licensees may require mandatory relocation from the broadband segment covered incumbents' remaining site-channels in a given county and within 70 miles of the county boundary, and geographically licensed channels where the license area completely or partially overlaps the county, that were not covered by § 27.1503(a)(2).

(b) Complex systems are exempt from mandatory relocation. To qualify as exempt from mandatory relocation, a complex system must have at least one site (of its 45 or more functionally integrated sites) located within the county license area or within 70 miles of the county boundary.

(c) A broadband licensee seeking to relocate a covered incumbent pursuant to this section is required to pay all reasonable relocation costs, including providing the relocated covered incumbent with comparable facilities. To be comparable, the replacement system provided to a covered incumbent during a mandatory relocation must be at least equivalent to the existing 900 MHz system with respect to the following four factors:

- (1) System;
- (2) Capacity;
- (3) Quality of service; and
- (4) Operating costs.

(d) Having met the 90% success threshold, a 900 MHz broadband licensee seeking to trigger the mandatory relocation process shall serve notice on applicable covered incumbent(s).

(e) Following the service of notice, a 900 MHz broadband licensee may request information from the covered incumbent reasonably required to craft its offer of comparable facilities.

(f) We expect all parties to negotiate with the utmost "good faith" in the negotiation process. Factors relevant to a "good-faith" determination include:

(1) Whether the party responsible for paying the cost of band reconfiguration has made a *bona fide* offer to relocate the incumbent to comparable facilities;

(2) The steps the parties have taken to determine the actual cost of relocation to comparable facilities; and

(3) Whether either party has unreasonably withheld information, essential to the accurate estimation of relocation costs and procedures, requested by the other party.

(g) A party seeking Commission resolution of a dispute must submit in writing to the Chief, Wireless Telecommunications Bureau:

(1) The name, address, telephone number, and email address of the 900 MHz broadband licensee or covered incumbent making the allegation;

(2) The name of the 900 MHz broadband licensee or covered incumbent about which the allegation is made;

(3) A complete statement of the facts supporting the broadband licensee's or incumbent's claim; and

(4) The specific relief sought.

(h) If an incumbent fails to negotiate in good faith, its facilities may be mandatorily relocated, and its license modified accordingly by the Commission pursuant to section 316 of the Act. If the Wireless Telecommunications Bureau finds bad faith on the part of the broadband licensee, the broadband licensee may lose the right to relocate the incumbent or the Wireless Telecommunications Bureau may refer the matter to the Enforcement Bureau for action (which could include a range of sanctions, such as imposition of forfeitures).

### § 27.1505 Performance requirements.

(a) 900 MHz broadband licensees shall demonstrate compliance with performance requirements by filing a construction notification with the Commission,

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within 15 days of the expiration of the applicable benchmark, in accordance with the provisions set forth in § 1.946(d) of this chapter.

(1) The licensee must certify whether it has met the applicable performance requirements. The licensee must file a description and certification of the areas for which it is providing service. The construction notifications must include electronic coverage maps and supporting technical documentation regarding the type of service it is providing for each licensed area within its service territory and the type of technology used to provide such service, and certify the accuracy of such documentation. Supporting documentation must include the assumptions used to create the coverage maps, including the propagation model and the signal strength necessary to provide reliable service with the licensee's technology.

(2) To demonstrate compliance with the population coverage requirement, licensees shall use the most recently available decennial U.S. Census Bureau data at the time of measurement and shall base their measurements of population served on areas no larger than the Census Tract level. The population within a specific Census Tract (or other acceptable identifier) will be deemed served by the licensee only if it provides reliable signal coverage to and offers service within the specific Census Tract (or other acceptable identifier). To the extent the Census Tract (or other acceptable identifier) extends beyond the boundaries of a license area, a licensee with authorizations for such areas may include only the population within the Census Tract (or other acceptable identifier) towards meeting the performance requirement of a single, individual license.

(b) A 900 MHz broadband licensee must meet either a population coverage requirement or geographic coverage as follows:

(1) *Population metric.* (i) A 900 MHz broadband licensee shall provide reliable signal coverage and offer broadband service to at least 45% of the population in its license area within six years of license grant.

(ii) A 900 MHz broadband licensee shall provide reliable signal coverage and offer broadband service to at least

80% of the population in its license area within 12 years of license grant.

(2) *Geographic coverage.* Alternatively, a 900 MHz broadband licensee may:

(i) Demonstrate it provides reliable signal coverage and offers broadband service covering at least 25% of the geographic license area within six years of license grant.

(ii) Demonstrate it provides reliable signal coverage and offers broadband service covering at least 50% of the geographic license area within twelve years of license grant.

(c) *Penalties.* (1) If a 900 MHz broadband licensee fails to meet the first performance benchmark, we require the licensee to meet the final performance benchmark two years sooner (*i.e.*, at 10 years into the license term) and reduce the license term from 15 years to 13 years.

(2) If a 900 MHz broadband licensee fails to meet the final performance benchmark, its authorization for that license area will terminate automatically without Commission action.

(d) *License renewal.* After satisfying the 12-year, final performance benchmark, a licensee must continue to provide coverage and offer broadband service at or above that level for the remaining three years of the 15-year license term in order to warrant license renewal.

**§ 27.1506 Frequencies.**

The 897.5–900.5 MHz and 936.5–939.5 MHz band segments are available for licensing with an authorized bandwidth up to 3 megahertz paired channels. The 897.5–900.5 MHz segment must only be used for uplink transmissions. The 936.5–939.5 MHz segments must only be used for downlink transmissions.

**§ 27.1507 Effective radiated power limits for 900 MHz broadband systems.**

(a) *Maximum ERP.* The power limits specified in this section are applicable to operations in areas more than 110 km (68.4 miles) from the U.S./Mexico border and 140 km (87 miles) from the U.S./Canada border.

(1) *General limit.* (i) The ERP for base and repeater stations must not exceed 400 watts/megahertz power spectral

density (PSD) per sector and an antenna height of 304 m height above average terrain (HAAT), except that antenna heights greater than 304 m HAAT are permitted if power levels are reduced below 400 watts/megahertz ERP in accordance with Table 1 of this section.

(ii) Provided that they also comply with paragraphs (b) and (c) of this section, licensees are permitted to operate base and repeater stations with up to a maximum ERP of 1000 watts/megahertz power spectral density (PSD) per sector and an antenna height of 304 m height above average terrain (HAAT), except that antenna heights greater than 304 m HAAT are permitted if power levels are reduced below 1000 watts/megahertz ERP in accordance with Table 2 of this section.

(2) *Rural areas.* For systems that are located in counties with population densities of 100 persons or fewer per square mile, based upon the most recently available population statistics from the Bureau of the Census:

(i) The ERP for base and repeater stations must not exceed 800 watts/megahertz power spectral density (PSD) per sector and an antenna height of 304 m height above average terrain (HAAT), except that antenna heights greater than 304 m HAAT are permitted if power levels are reduced below 800 watts/megahertz ERP in accordance with Table 3 of this section.

(ii) Provided that they also comply with paragraphs (b) and (c) of this section, base and repeater stations may operate with up to a maximum ERP of 2000 watts/megahertz power spectral density (PSD) per sector and an antenna height of 304 m height above average terrain (HAAT), except that antenna heights greater than 304 m HAAT are permitted if power levels are reduced below 2000 watts/megahertz ERP in accordance with Table 4 of this section.

(3) *Mobile, control and auxiliary test stations.* Mobile, control and auxiliary test stations must not exceed 10 watts ERP.

(4) *Portable stations.* Portable stations must not exceed 3 watts ERP.

(b) *Power flux density (PFD).* Each 900 MHz broadband base or repeater station that exceeds the ERP limit of

paragraph (a)(1)(i) or (a)(2)(i) of this section must be designed and deployed so as not to exceed a modeled PFD of 3000 microwatts/m<sup>2</sup>/MHz over at least 98% of the area within 1 km of the base or repeater station antenna, at 1.6 meters above ground level. To ensure compliance with this requirement, the licensee must perform predictive modeling of the PFD values within at least 1 km of each base or repeater station antenna prior to commencing such operations and, thereafter, prior to making any site modifications that may increase the PFD levels around the base or repeater station. The modeling must take into consideration terrain and other local conditions and must use good engineering practices for the 900 MHz band.

(c) *Power measurement.* Measurement of 900 MHz broadband base transmitter and repeater ERP must be made using an average power measurement technique. Power measurements for base transmitters and repeaters must be made in accordance with either of the following:

(1) A Commission-approved average power technique (see FCC Laboratory's Knowledge Database); or

(2) For purposes of this section, peak transmit power must be measured over an interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, etc., so as to obtain a true peak measurement for the emission in question over the full bandwidth of the channel.

(d) *PAR limit.* The peak-to-average ratio (PAR) of the transmission must not exceed 13 dB.

(e) *Height-power limit.* As specified in paragraph (a) of this section, the following tables specify the maximum base station power for antenna heights above average terrain (HAAT) that exceed 304 meters.

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TABLE 1 TO § 27.1507—PERMISSIBLE POWER AND ANTENNA HEIGHTS FOR BASE STATIONS AND REPEATERS PERMITTED TO TRANSMIT WITH UP TO 400 WATTS/MEGAHERTZ

Antenna height (AAT) in meters (feet)	Effective radiated power (ERP) (watts/megahertz)
Above 1372 (4500) .....	26
Above 1220 (4000) To 1372 (4500) .....	28
Above 1067 (3500) To 1220 (4000) .....	30
Above 915 (3000) To 1067 (3500) .....	40
Above 763 (2500) To 915 (3000) .....	56
Above 610 (2000) To 763 (2500) .....	80
Above 458 (1500) To 610 (2000) .....	140
Above 305 (1000) To 458 (1500) .....	240
Up to 305 (1000) .....	400

TABLE 2 TO § 27.1507—PERMISSIBLE POWER AND ANTENNA HEIGHTS FOR BASE STATIONS AND REPEATERS PERMITTED TO TRANSMIT WITH UP TO 1000 WATTS/MEGAHERTZ

Antenna height (AAT) in meters (feet)	Effective radiated power (ERP) (watts/megahertz)
Above 1372 (4500) .....	65
Above 1220 (4000) To 1372 (4500) .....	70
Above 1067 (3500) To 1220 (4000) .....	75
Above 915 (3000) To 1067 (3500) .....	100
Above 763 (2500) To 915 (3000) .....	140
Above 610 (2000) To 763 (2500) .....	200
Above 458 (1500) To 610 (2000) .....	350
Above 305 (1000) To 458 (1500) .....	600
Up to 305 (1000) .....	1000

TABLE 3 TO § 27.1507—PERMISSIBLE POWER AND ANTENNA HEIGHTS FOR BASE STATIONS AND REPEATERS PERMITTED TO TRANSMIT WITH UP TO 800 WATTS/MEGAHERTZ

Antenna height (AAT) in meters (feet)	Effective radiated power (ERP) (watts/megahertz)
Above 1372 (4500) .....	52
Above 1220 (4000) To 1372 (4500) .....	56

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TABLE 3 TO § 27.1507—PERMISSIBLE POWER AND ANTENNA HEIGHTS FOR BASE STATIONS AND REPEATERS PERMITTED TO TRANSMIT WITH UP TO 800 WATTS/MEGAHERTZ—Continued

Antenna height (AAT) in meters (feet)	Effective radiated power (ERP) (watts/megahertz)
Above 1067 (3500) To 1220 (4000) .....	60
Above 915 (3000) To 1067 (3500) .....	80
Above 763 (2500) To 915 (3000) .....	112
Above 610 (2000) To 763 (2500) .....	160
Above 458 (1500) To 610 (2000) .....	280
Above 305 (1000) To 458 (1500) .....	480
Up to 305 (1000) .....	800

TABLE 4 TO § 27.1507—PERMISSIBLE POWER AND ANTENNA HEIGHTS FOR BASE STATIONS AND REPEATERS PERMITTED TO TRANSMIT WITH UP TO 2000 WATTS/MEGAHERTZ

Antenna height (AAT) in meters (feet)	Effective radiated power (ERP) (watts/megahertz)
Above 1372 (4500) .....	130
Above 1220 (4000) To 1372 (4500) .....	140
Above 1067 (3500) To 1220 (4000) .....	150
Above 915 (3000) To 1067 (3500) .....	200
Above 763 (2500) To 915 (3000) .....	280
Above 610 (2000) To 763 (2500) .....	400
Above 458 (1500) To 610 (2000) .....	700
Above 305 (1000) To 458 (1500) .....	1200
Up to 305 (1000) .....	2000

**§ 27.1508 Field strength limit.**

The predicted or measured median field strength must not exceed 40 dB<sub>μ</sub>V/m at any given point along the geographic license boundary, unless the affected licensee agrees to a different field strength. This value applies to both the initially offered service areas and to partitioned service areas.

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### § 27.1509 Emission limits.

The power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) in watts by at least the following amounts:

(a) For 900 MHz broadband operations in 897.5–900.5 MHz band by at least  $43 + 10 \log (P)$  dB.

(b) For 900 MHz broadband operations in the 936.5–939.5 MHz band, by at least  $50 + 10 \log (P)$  dB.

(c) Compliance with the provisions of paragraphs (a) and (b) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the licensee's band, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

(d) The measurements of emission power can be expressed in peak or average values, provided they are expressed in the same parameters as the transmitter power.

(e) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in this section.

### § 27.1510 Unacceptable interference to narrowband 900 MHz licensees from 900 MHz broadband licensees.

See 47 CFR 90.672.

### Subpart Q—3.45 GHz Service (3450–3550 MHz)

SOURCE: 86 FR 17954, Apr. 7, 2021, unless otherwise noted.

### § 27.1600 3450–3550 MHz band subject to competitive bidding.

Mutually exclusive initial applications for 3450–3550 MHz band licenses are subject to competitive bidding. The general competitive bidding procedures

set forth in 47 CFR part 1, subpart Q, will apply unless otherwise provided in this subpart.

### § 27.1601 Designated entities in the 3450–3550 MHz band.

(a) *Eligibility for small business provisions*—(1) *Definitions*—(i) *Small business*. A small business is an entity that, together with its affiliates, its controlling interests, and the affiliates of its controlling interests, has average gross revenues not exceeding \$55 million for the preceding five (5) years.

(ii) *Very small business*. A very small business is an entity that, together with its affiliates, its controlling interests, and the affiliates of its controlling interests, has average gross revenues not exceeding \$20 million for the preceding five (5) years.

(2) *Bidding credits*. A winning bidder that qualifies as a small business, as defined in this section, or a consortium of small businesses as provided in § 1.2110(c)(6) of this chapter, may use the bidding credit of 15 percent, as specified in § 1.2110(f)(2)(i)(C) of this chapter, subject to the cap specified in § 1.2110(f)(2)(ii) of this chapter. A winning bidder that qualifies as a very small business, as defined in this section, or a consortium of very small businesses as provided in § 1.2110(c)(6) of this chapter, may use the bidding credit of 25 percent, as specified in § 1.2110(f)(2)(i)(B) of this chapter, subject to the cap specified in § 1.2110(f)(2)(ii) of this chapter.

(b) *Eligibility for rural service provider bidding credit*. A rural service provider, as defined in § 1.2110(f)(4)(i) of this chapter, that has not claimed a small business bidding credit, or a consortium of rural service providers as provided in § 1.2110(c)(6) of this chapter, may use the bidding credit of 15 percent specified in § 1.2110(f)(4) of this chapter.

### § 27.1602 Incumbent Federal operations.

Regarding incumbent Federal operations in the 3450–3550 MHz band, 3.45 GHz Service licensees must comply with footnote US431B of the Table of Frequency Allocations in 47 CFR 2.106.

## § 27.1603

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### § 27.1603 Coordination procedures.

(a) *Coordination requirement.* Prior to operation of any 3.45 GHz Service license in a Cooperative Planning Area or Periodic Use Area, a 3.45 GHz Service licensee must successfully coordinate such operation with any Federal incumbents in the Cooperative Planning Area or Periodic Use Area. The coordination procedures contained in this section shall apply unless the 3.45 GHz Service licensee and the Federal incumbent(s) have reached a mutually acceptable operator-to-operator coordination agreement that provides otherwise.

(b) *Informal discussions.* Before a 3.45 GHz Service licensee submits a formal coordination request, it may share and discuss draft proposals with Federal incumbent coordination staff. These discussions are voluntary, informal, and non-binding and can begin at any time.

(c) *Formal coordination.* The 3.45 GHz Service licensee shall initiate coordination by formally requesting access to operate within a Cooperative Planning Area and/or Periodic Use Area directly through the Department of Defense's online portal.

(d) *Initiation, timing, and affirmative concurrence.* A 3.45 GHz Service licensee must initiate a formal coordination request through the online portal provided by the Department of Defense. Unless otherwise agreed between a 3.45 GHz Service licensee and the relevant Federal incumbent(s), no formal coordination requests may be submitted until nine (9) months after the date of the auction closing Public Notice. 3.45 GHz Service licensees may request informal discussions (through the point of contact identified in the applicable Transition Plan) during this nine-month time period. Unless otherwise agreed to in writing, the requirement to reach a coordination arrangement is satisfied only by obtaining the affirmative concurrence of the relevant Federal incumbent(s) via the portal. The requirement of this paragraph (d) is not satisfied by omission.

(e) *Submission information.* To submit a formal coordination request, the 3.45 GHz Service licensee must include information about the technical characteristics for the 3.45 GHz Service base stations and associated mobile units

relevant to operation within the Cooperative Planning Area and/or Periodic Use Area. This information should be provided in accordance with the instructions provided in the portal user's guide provided by the Department of Defense. 3.45 GHz Service licensees must prioritize their deployments in the Cooperative Planning Area for each Federal incumbent when submitting a formal coordination request. If a 3.45 GHz Service licensee is seeking to coordinate with multiple systems or multiple locations of operation controlled by one Federal incumbent, the licensee must specify the order in which it prefers the Federal incumbent process the request (*i.e.*, the order of systems or geographic locations).

(f) *Coordination analysis.* If a 3.45 GHz Service licensee has questions about the result of a coordination request, it may contact the Federal incumbent to propose network design modifications to help address issues raised by the Federal incumbent. Once the 3.45 GHz Service licensee has revised its network design, it must resubmit a formal coordination request, and the 3.45 GHz Service formal coordination process begins again.

(g) *Interference resolution process.* In instances of identified harmful interference occurring between a Federal and non-Federal operator not otherwise addressed by the coordination procedures or operator-to-operator agreements, the 3.45 GHz Service licensee shall first attempt to resolve the interference directly. If that effort is unsuccessful, the 3.45 GHz Service licensee, if adversely affected may escalate the matter to the Commission.

### § 27.1604 Reimbursement of relocation expenses of non-Federal radiolocation incumbents.

(a) *Relocation reimbursement contribution.* Each entity granted an initial license (not a renewal) in the 3.45 GHz Service (Licensee) must pay a *pro rata* portion to reimburse the costs incurred by authorized non-Federal, secondary radiolocation licensees for relocating from the 3.3–3.55 GHz band. These costs include the cost of a clearinghouse's administration of the reimbursement, which the radiolocation licensees will

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pay initially and include in their reimbursable costs.

(b) *Pro rata share.* A Licensee's *pro rata* share of relocation costs will be determined by dividing the total actual costs of such relocation, as approved by the clearinghouse selected pursuant to § 27.1605, by the total number of 3.45 GHz Service licenses granted, multiplied by the number of such licenses the Licensee will hold.

(c) *Timing of payment.* A Licensee's relocation reimbursement contribution share must be paid to the clearinghouse by the date(s) and subject to procedures specified by public notice.

**§ 27.1605 Reimbursement clearinghouse.**

(a) The clearinghouse ultimately selected shall determine the reimbursement obligations of each Licensee pursuant to § 27.1604.

(1) The clearinghouse must be a neutral, independent entity with no conflicts of interest (as defined in § 27.1414(b)), on the part of the organization or its officers, directors, employees, contractors, or significant subcontractors.

(2) The clearinghouse must be able to demonstrate that it has the requisite expertise to perform the duties required, which will include collecting and distributing reimbursement payments, auditing incoming and outgoing estimates, mitigating cost disputes among parties, and generally acting as a clearinghouse.

(3) The clearinghouse must comply with, on an ongoing basis, all applicable laws and Federal Government guidance on privacy and information security requirements such as relevant provisions in the Federal Information Security Management Act, National Institute of Standards and Technology publications, and Office of Management and Budget guidance.

(4) The clearinghouse must provide quarterly reports to the Wireless Telecommunications Bureau that detail the status of reimbursement funds available, the payments issued, the amounts collected from licensees, and any information filed by incumbents. The reports must account for all funds spent, including the clearinghouse's own expenses. The report shall include de-

scriptions of any disputes and the manner in which they were resolved.

(b) Non-Federal secondary radio-location licensees in the 3.3–3.55 GHz band that seek reimbursement of their expenses for relocating operations authorized under their licenses and existing as of February 22, 2019, must submit invoices or other appropriate documentation of such expenses to the clearinghouse no later than a date to be specified by public notice.

(c) Expenses must be reasonably related to the relocation from the 3.3–3.55 GHz band to the 2.9–3.0 GHz band, may be future expenses or expenses already incurred—including the clearinghouse's costs, and no expenses for other purposes will be subject to reimbursement. Ineligible expenses include, but are not limited to, those related to upgrades or improvements. The clearinghouse shall have the authority to determine whether particular expenses are eligible for reimbursement.

(d) The Wireless Telecommunications Bureau is responsible for resolving any disputes arising from decisions by the clearinghouse and shall specify by public notice when the clearinghouse's responsibilities have terminated.

**§ 27.1606 Aggregation of 3450–3550 MHz band licenses.**

(a) 3.45 GHz Service licensees may aggregate up to 40 megahertz of 3450–3550 MHz band licenses across both license categories in any service area at any given time for four years after the close of the auction. After four years post-auction, no such aggregation limit on 3450–3550 MHz licenses shall apply.

(b) The criteria in § 20.22(b) of this chapter will apply in order to attribute partial ownership and other interests for the purpose of applying the aggregation limit in paragraph (a) of this section.

**§ 27.1607 Information sharing for time division duplex synchronization.**

(a) 3.45 GHz Service licensees must provide information to requesting Citizens Broadband Radio Service (part 96 of this chapter) operators to enable time division duplex (TDD) synchronization. Negotiations over the information must be conducted in good faith,

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with the goal of enabling synchronization between the relevant systems.

(1) A Citizens Broadband Radio Service operator, whether a Priority Access Licensee or a General Authorized Access user (§ 96.1(b) of this chapter), may request information from a 3.45 GHz Service licensee to enable cross-service TDD synchronization if it provides service, or intends to provide service, in the same or adjacent geographic area as a 3.45 GHz Service licensee.

(2) Upon request by an eligible Citizens Broadband Radio Service operator, the 3.45 GHz Service licensee must provide sufficient technical information to allow the Citizens Broadband Radio Service operator to synchronize its system with the 3.45 GHz band system. The 3.45 GHz Service licensee must keep this information current if its network operations change.

(b) 3.45 GHz Service licensees are under no obligation to make any changes to their operations or proposed operations to enable TDD synchronization.

**PART 30—UPPER MICROWAVE FLEXIBLE USE SERVICE****Subpart A—General**

Sec.

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- 30.2 Definitions.
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AUTHORITY: 47 U.S.C. 151, 152, 153, 154, 301, 303, 304, 307, 309, 310, 316, 332, 1302, unless otherwise noted.

SOURCE: 81 FR 79937, Nov. 14, 2016, unless otherwise noted.

**Subpart A—General****§ 30.1 Creation of upper microwave flexible use service, scope and authority.**

As of December 14, 2016, Local Multipoint Distribution Service licenses for the 27.5–28.35 GHz band, and licenses issued in the 38.6–40 GHz band under part 101 of this chapter shall be reassigned to the Upper Microwave Flexible Use Service. Local Multipoint Distribution Service licenses in bands other than 27.5–28.35 GHz shall remain in that service and shall be governed by the part 101 of this chapter applicable to that service.

**§ 30.2 Definitions.**

The following definitions apply to this part:

*Authorized bandwidth.* The maximum width of the band of frequencies permitted to be used by a station. This is normally considered to be the necessary or occupied bandwidth, whichever is greater. (See § 2.202 of this chapter).