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TITLE 47--TELECOMMUNICATION

CHAPTER I--FEDERAL COMMUNICATIONS
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PART 24--PERSONAL COMMUNICATIONS SERVICES--Table of Contents

Subpart A--General Information

Sec. 24.1 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 the personal communications services (PCS)
in this part are promulgated under the provisions of the Communications
Act of 1934, as amended, that vests 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 portions of
the radio spectrum are made available and licensed for PCS.

(c) Scope. The rules in this part apply only to stations authorized
under this part. Rules in subparts D and E apply only to stations
authorized under those subparts.

[58 FR 59183, Nov. 8, 1993. Redesignated at 59 FR 18499, Apr. 19, 1994,
and amended at 59 FR 32854, June 24, 1994]

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Sec. 24.2 Other applicable rule parts.

Other FCC rule parts applicable to licensees in the personal communications services 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; and the environmental requirements that, 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 contains rules setting out the regulations

under which an intentional, unintentional, or incidental radiator may be operated without an individual license. It also contains the technical specifications, administrative requirements and other conditions relating to the marketing of part 15 devices. Unlicensed PCS devices operate under subpart D of part 15.

(f) Part 17. This part contains requirements for construction, marking and lighting of antenna towers.

(g) Part 20 of this chapter governs commercial mobile radio services.

(h) Part 21. This part contains rules concerning multipoint distribution service and multichannel multipoint distribution service.

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

(j) Part 101. This part contains rules concerning common carrier and private services relating to fixed point-to-point and point-to-multipoint microwave systems.

[58 FR 59183, Nov. 8, 1993. Redesignated and amended at 59 FR 18499, Apr. 19, 1994, as amended at 63 FR 68952, Dec. 14, 1998; 65 FR 38325, June 20, 2000]

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Subpart A--General Information

Sec. 24.3 Permissible communications.

PCS licensees may provide any mobile communications service on their assigned spectrum. Fixed services may be provided on a co-primary basis with mobile operations. Broadcasting as defined in the Communications Act is prohibited.

[61 FR 45356, Aug. 29, 1996]

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Subpart A--General Information

Sec. 24.5 Terms and definitions.

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

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.

Broadband PCS. PCS services operating in the 1850-1890 MHz, 1930-1970 MHz, 2130-2150 MHz, and 2180-2200 MHz bands.

Effective Radiated Power (e.r.p.) (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 (e.i.r.p.). 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 radiocommunication 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.

Mobile Service. A radiocommunication 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.

Narrowband PCS. PCS services operating in the 901-902 MHz, 930-931 MHz, and 940-941 MHz bands.

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)

PCS Relocator. A PCS entity that pays to relocate a fixed microwave link from its existing 2 GHz facility to other media or other fixed channels.

Personal Communications Services (PCS). Radio communications that encompass mobile and ancillary fixed communication that provide services to individuals and businesses and can be integrated with a variety of competing networks.

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.

UTAM. The Unlicensed PCS Ad Hoc Committee for 2 GHz Microwave Transition and Management, which coordinates relocation in the 1910-1930 MHz band.

Voluntarily Relocating Microwave Incumbent A microwave incumbent that voluntarily relocates its licensed facilities to other media or fixed channels.

[58 FR 59183, Nov. 8, 1993. Redesignated at 59 FR 18499, Apr. 19, 1994, and amended at 61 FR 29691, June 12, 1996; 62 FR 12757, Mar. 18, 1997; 63 FR 68952, Dec. 14, 1998]

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Subpart B--Applications and Licenses

Sec. 24.10 Scope.

General Filing Requirements

This subpart contains some of the procedures and requirements for filing applications for licenses in the personal communications services. One also should consult subparts F and G of this part. Other Commission rule parts of importance that may be referred to with respect

to licensing and operation of radio services governed under this part
include 47 CFR parts 0, 1, 2, 5, 15, 17 and 20.

[59 FR 32854, June 24, 1994]

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Subpart B--Applications and Licenses

Sec. 24.11 Initial authorization.

- (a) An applicant must file a single application for an initial authorization for all markets won and frequency blocks desired.
- (b) Blanket licenses are granted for each market and frequency block. Applications for individual sites are not required and will not be accepted.

[59 FR 32854, June 24, 1994, as amended at 63 FR 68952, Dec. 14, 1998]

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Sec. 24.12 Eligibility.

Any entity, other than those precluded by section 310 of the Communications Act of 1934, as amended, 47 U.S.C. 310, or Secs. 99.202(c) or 99.204, is eligible to hold a license under this part.

[58 FR 59183, Nov. 8, 1993; 59 FR 15269, Mar. 31, 1994]

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Sec. 24.15 License period.

Licenses for service areas will be granted for ten year terms from the date of original issuance or renewal.

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Sec. 24.16 Criteria for comparative renewal proceedings.

A renewal applicant involved in a comparative renewal proceeding shall receive a preference, commonly referred to as a renewal expectancy, which is the most important comparative factor to be considered in the proceeding, if its past record for the relevant license period demonstrates that the renewal applicant:

- (a) Has provided "substantial" service during its past license term. "Substantial" service is defined as service which is sound, favorable, and substantially above a level of mediocre service which might just minimally warrant renewal; and
- (b) Has substantially complied with applicable Commission rules, policies and the Communications Act.

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Subpart C--Technical Standards

Sec. 24.50 Scope.

This subpart sets forth the technical requirements for use of the spectrum and equipment in the personal communications services.

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Subpart C--Technical Standards

Sec. 24.51 Equipment authorization.

(a) Each transmitter utilized for operation under this part and each transmitter marketed, as set forth in Sec. 2.803 of this chapter, must be of a type that has been authorized by the Commission under its certification procedure for use under this part.

(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.

(c) Applicants for certification of transmitters that operate in these services must determine that the equipment complies with IEEE C95.1-1991, "IEEE Standards for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz" as measured using methods specified in IEEE C95.3-1991, "Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields--RF and Microwave." The applicant for certification is required to submit a statement affirming that the equipment complies with these standards as measured by an approved method and to maintain a record showing the basis for the statement of compliance with IEEE C.95.1-1991.

[58 FR 59183, Nov. 8, 1993. Redesignated at 59 FR 18499, Apr. 19, 1994, as amended at 63 FR 36604, July 7, 1998]

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Subpart C--Technical Standards

Sec. 24.52 RF hazards.

Licensees and manufacturers are subject to the radiofrequency radiation exposure requirements specified in Sec. 1.1307(b), Sec. 2.1091 and Sec. 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 for both fundamental emissions and unwanted emissions. Technical information showing the basis for this statement must be submitted to the Commission upon request.

[61 FR 41018, Aug. 7, 1996]

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Subpart C--Technical Standards

Sec. 24.53 Calculation of height above average terrain (HAAT).

(a) HAAT is determined by subtracting average terrain elevation from antenna height above mean sea level.

(b) Average terrain elevation shall be calculated using elevation data from a 30 arc second or better Digital Elevation Models (DEMs). DEM data is available from United States Geological Survey (USGS). The data file shall be identified. If 30 arc second data is used, the elevation data must be processed for intermediate points using interpolation techniques; otherwise, the nearest point may be used. If DEM data is not available, elevation data from the Defense Mapping Agency's Digital Chart of the World (DCW) may be used.

(c) Radial average terrain elevation is calculated as the average of the elevation along a straight line path from 3 to 16 kilometers extending radially from the antenna site. At least 50 evenly spaced data points for each radial shall be used in the computation.

(d) Average terrain elevation is the average of the eight radial average terrain elevations (for the eight cardinal radials).

(e) The position location of the antenna site shall be determined to an accuracy of no less than [plusmn]5 meters in both the horizontal (latitude and longitude) and vertical (ground elevation) dimensions with respect to the National Geodetic Reference System.

[58 FR 59183, Nov. 8, 1993; 59 FR 15269, Mar. 31, 1994]

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Subpart C--Technical Standards

Sec. 24.55 Antenna structures; air navigation safety.

Licenseses that own their antenna structures must not allow these antenna structures 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, each 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 Sec. 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.

(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.

[61 FR 4366, Feb. 6, 1996]

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Subpart D--Narrowband PCS

Sec. 24.100 Scope.

This subpart sets out the regulations governing the licensing and operations of personal communications services authorized in the 901-902, 930-931, and 940-941 MHz bands (900 MHz band).

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Subpart D--Narrowband PCS

Sec. 24.102 Service areas.

Narrowband PCS service areas are nationwide, regional, and Major Trading Areas (MTAs), as defined in this section. MTAs are based on the Rand McNally 1992 Commercial Atlas & Marketing Guide, 123rd Edition, at pages 38-39 (MTA Map). Rand McNally organizes the 50 States and the District of Columbia into 47 MTAs. The MTA Map is available for public inspection in the FCC's Library, Room TW-B505, 445 12th Street SW, Washington, D.C.

(a) The nationwide service area consists of the fifty states, the District of Columbia, American Samoa, Guam, Northern Mariana Islands, Puerto Rico, and United States Virgin Islands.

(b) The regional service areas are defined as follows:

(1) Region 1 (Northeast): The Northeast Region consists of the following MTAs: Boston-Providence, Buffalo-

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Rochester, New York, Philadelphia, and Pittsburgh.

(2) Region 2 (South): The South Region consists of the following MTAs: Atlanta, Charlotte-Greensboro-Greenville-Raleigh, Jacksonville, Knoxville, Louisville-Lexington-Evansville, Nashville, Miami-Fort Lauderdale, Richmond-Norfolk, Tampa-St. Petersburg-Orlando, and Washington-Baltimore; and, Puerto Rico and United States Virgin Islands.

(3) Region 3 (Midwest): The Midwest Region consists of the following MTAs: Chicago, Cincinnati-Dayton, Cleveland, Columbus, Des Moines-Quad Cities, Detroit, Indianapolis, Milwaukee, Minneapolis-St. Paul, and Omaha.

(4) Region 4 (Central): The Central Region consists of the following MTAs: Birmingham, Dallas-Fort Worth, Denver, El Paso-Albuquerque, Houston, Kansas City, Little Rock, Memphis-Jackson, New Orleans-Baton Rouge, Oklahoma City, San Antonio, St. Louis, Tulsa, and Wichita.

(5) Region 5 (West): The West Region consists of the following MTAs: Honolulu, Los Angeles-San Diego, Phoenix, Portland, Salt Lake City, San Francisco-Oakland-San Jose, Seattle (including Alaska), and Spokane-Billings; and, American Samoa, Guam, and the Northern Mariana Islands.

(c) The MTA service areas are based on the Rand McNally 1992 Commercial Atlas & Marketing Guide, 123rd Edition, at pages 38-39, with the following exceptions and additions:

(1) Alaska is separated from the Seattle MTA and is licensed

separately.

(2) Guam and the Northern Mariana Islands are licensed as a single MTA-like area.

(3) Puerto Rico and the United States Virgin Islands are licensed as a single MTA-like area.

(4) American Samoa is licensed as a single MTA-like area.

[59 FR 14118, Mar. 25, 1994, as amended at 59 FR 46199, Sept. 7, 1994;
65 FR 35852, June 6, 2000]

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Subpart D--Narrowband PCS

Sec. 24.103 Construction requirements.

(a) Nationwide narrowband PCS licensees shall construct base stations that provide coverage to a composite area of 750,000 square kilometers or serve 37.5 percent of the U.S. population within five years of initial license grant date; and, shall construct base stations that provide coverage to a composite area of 1,500,000 square kilometers or serve 75 percent of the U.S. population within ten years of initial license grant date. Licensees may, in the alternative, provide substantial service to the licensed area as provided in paragraph (d) of this section.

(b) Regional narrowband PCS licensees shall construct base stations that provide coverage to a composite area of 150,000 square kilometers or serve 37.5 percent of the population of the service area within five years of initial license grant date; and, shall construct base stations that provide coverage to a composite area of 300,000 square kilometers or serve 75 percent of the service area population within ten years of initial license grant date. Licensees may, in the alternative, provide substantial service to the licensed area as provided in paragraph (d) of this section.

(c) MTA narrowband PCS licensees shall construct base stations that provide coverage to a composite area of 75,000 square kilometers or 25 percent of the geographic area, or serve 37.5 percent of the population of the service area within five years of initial license grant date; and, shall construct base stations that provide coverage to a composite area of 150,000 square kilometers or 50 percent of the geographic area, or serve 75 percent of the population of the service area within ten years of initial license grant date. Licensees may, in the alternative, provide substantial service to the licensed area as provided in paragraph (d) of this section.

(d) As an alternative to the requirements of paragraphs (a), (b), and (c) of this section, narrowband PCS licensees may demonstrate that, no later than ten years after the initial grant of their license, they provide substantial service to their licensed area. Licensees choosing this option must notify the FCC by filing FCC Form 601, no later than 15 days after the end of the five year period following the initial grant of their license, that they plan to satisfy the alternative requirement to provide substantial service. "Substantial service" is defined as service that

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is sound, favorable, and substantially above a level of mediocre service that would barely warrant renewal.

(e) In demonstrating compliance with the construction requirements set forth in this section, licensees must base their calculations on signal field strengths that ensure reliable service for the technology utilized. Licensees may determine the population of geographic areas included within their service contours using either the 1990 census or the 2000 census, but not both.

(1) For the purpose of this section, the service radius of a base

station may be calculated using the following formula:

$$d_{\text{km}} = 2.53 \times h_{\text{m}}^{0.34} \times p^{0.17}$$

where d_{km} is the radial distance in kilometers,
 h_{m} is the antenna HAAT of the base station in meters, and
 p is the e.r.p. of the base station in watts.

- (2) Alternatively, licensees may use any service radius contour formula developed or generally used by industry, provided that such formula is based on the technical characteristics of their system.
- (f) Upon meeting the five and ten year benchmarks in paragraphs (a), (b), and (c) of this section, or upon meeting the substantial service alternative in paragraph (d), licensees shall notify the Commission by filing FCC Form 601 and including a map and other supporting documentation that demonstrate the required geographic area coverage, population coverage, or substantial service to the licensed area. The notification must be filed with the Commission within 15 days of the expiration of the relevant period.
- (g) If the sale of a license is approved, the new licensee is held to the original build-out requirement.
- (h) Failure by a licensee to meet the above construction requirements shall result in forfeiture of the license and ineligibility to regain it.

[59 FR 14118, Mar. 25, 1994, as amended at 65 FR 35852, June 6, 2000]

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Subpart D--Narrowband PCS

Sec. 24.104 Partitioning and disaggregation.

Nationwide, regional, and MTA licensees may apply to partition their authorized geographic service area or disaggregate their authorized spectrum at any time following grant of their geographic area authorizations.

(a) Application required. Parties seeking approval for partitioning and/or disaggregation shall apply for partial assignment of a license pursuant to Sec. 1.948 of this chapter.

(b) Partitioning. In the case of partitioning, applicants and licensees must file FCC Form 603 pursuant to Sec. 1.948 of this chapter and describe the partitioned service area on a schedule to the application. The partitioned service area shall be defined by up to 120 sets of geographic coordinates at points at every 3 degrees azimuth from a point within the partitioned service area along the partitioned service area boundary unless either an FCC-recognized service area is used (e.g., MEA or EA) or county lines are followed. The geographical coordinates must be specified in degrees, minutes, and seconds to the nearest second latitude and longitude, and must be based upon the 1983 North American Datum (NAD83). In the case where FCC-recognized service areas or county lines are used, applicants need only list the specific area(s) through use of FCC designations or county names that constitute the partitioned area.

(c) Disaggregation. Spectrum may be disaggregated in any amount.

(d) Combined partitioning and disaggregation. Licensees may apply for partial assignment of authorizations that propose combinations of partitioning and disaggregation.

(e) 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 Sec. 1.955 of this chapter.

(f) Coverage requirements for partitioning. (1) Parties to a partitioning agreement must satisfy at least one of the following requirements:

(i) The partitionee must satisfy the applicable coverage

requirements set forth in Sec. 24.103 for the partitioned license area;

or

(ii) The original licensee must meet the coverage requirements set forth in Sec. 24.103 for the entire geographic area. In this case, the partitionee must meet

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only the requirements for renewal of its authorization for the partitioned license area.

(2) Parties seeking authority to partition must submit with their partial assignment application a certification signed by both parties stating which of the options they select.

(3) Partitionees must submit supporting documents showing compliance with their coverage requirements as set forth in Sec. 24.103.

(4) Failure by any partitionee to meet its coverage requirements will result in automatic cancellation of the partitioned authorization without further Commission action.

(g) Coverage requirements for disaggregation. (1) Parties to a disaggregation agreement must satisfy at least one of the following requirements:

(i) Either the disaggregator or disaggregatee must satisfy the coverage requirements set forth in Sec. 24.103 for the entire license area; or

(ii) Parties must agree to share responsibility for meeting the coverage requirements set forth in Sec. 24.103 for the entire license area.

(2) Parties seeking authority to disaggregate must submit with their partial assignment application a certification signed by both parties stating which of the requirements they select.

(3) Disaggregatees must submit supporting documents showing compliance with their coverage requirements as set forth in Sec. 24.103.

(4) Parties that accept responsibility for meeting the coverage requirements and later fail to do so will be subject to automatic license cancellation without further Commission action.

[65 FR 35853, June 6, 2000]

Effective Date Note: At 65 FR 35853, June 6, 2000, Sec. 24.104 was added. This section contains information collection and recordkeeping

requirements and will not become effective until approval has been given
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Subpart D--Narrowband PCS

Sec. 24.129 Frequencies.

The following frequencies are available for narrowband PCS:

(a) Eighteen frequencies are available for assignment on a
nationwide basis as follows:

(1) Seven 50 kHz channels paired with 50 kHz channels:

Channel 1: 940.00-940.05 and 901.00-901.05 MHz;

Channel 2: 940.05-940.10 and 901.05-901.10 MHz;

Channel 3: 940.10-940.15 and 901.10-901.15 MHz;

Channel 4: 940.15-940.20 and 901.15-901.20 MHz;

Channel 5: 940.20-940.25 and 901.20-901.25 MHz;

Channel 19: 930.50-930.55 and 901.30-901.35 MHz; and

Channel 20: 930.75-930.80 and 901.90-901.95 MHz.

(2) Three 50 kHz channels paired with 12.5 kHz channels:

Channel 6: 930.40-930.45 and 901.7500-901.7625 MHz;

Channel 7: 930.45-930.50 and 901.7625-901.7750 MHz; and
Channel 8: 940.75-940.80 and 901.7750-901.7875 MHz;

(3) Two 50 kHz unpaired channels:

Channel 9: RESERVED;
Channel 10: 940.80-940.85 MHz; and
Channel 11: 940.85-940.90 MHz.

(4) One 100 kHz unpaired channel:

Channel 18: 940.65-940.75 MHz.

(5) Two 150 kHz channels paired with 50 kHz channels:

Channel 21: 930.00-930.15 and 901.50-901.55 MHz; and
Channel 22: 930.15-930.30 and 901.60-901.65 MHz.

(6) Three 100 kHz channels paired with 50 kHz channels:

Channel 23: 940.55-940.65 and 901.45-901.50 MHz;
Channel 24: 940.30-940.40 and 901.55-901.60 MHz; and
Channel 25: 940.45-940.55 and 901.85-901.90 MHz.

(b) Five frequencies are available for assignment on a regional
basis as follows:

(1) One 50 kHz channel paired with 50 kHz channel:

Channel 12: 940.25-940.30 and 901.25-901.30 MHz.
Channel 13: RESERVED.

(2) Four 50 kHz channels paired with 12.5 kHz channels:

Channel 14: 930.55-930.60 and 901.7875-901.8000 MHz;
Channel 15: 930.60-930.65 and 901.8000-901.8125 MHz;
Channel 16: 930.65-930.70 and 901.8125-901.8250 MHz; and

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Channel 17: 930.70-930.75 and 901.8250-901.8375 MHz.

(c) Seven frequencies are available for assignment on an MTA basis
as follows:

(1) Three 50 kHz unpaired channels:

Channel 26: 901.35-901.40 MHz;
Channel 27: 901.40-901.45 MHz; and
Channel 28: 940.40-940.45 MHz.

(2) One 50 kHz channel paired with 50 kHz channel:

Channel 29: 930.80-930.85 and 901.95-902.00 MHz.

(3) One 100 kHz channel paired with 50 kHz channel:

Channel 30: 930.30-930.40 and 901.65-901.70 MHz.

(4) One 150 kHz channel paired with 50 kHz channel:

Channel 31: 930.85-931.00 and 901.7-901.75 MHz.

(5) One 100 kHz channel paired with 12.5 kHz channel:

Channel 32: 940.90-941 and 901.8375-901.85 MHz.

Note to Sec. 24.129: Operations in markets or portions of markets
which border other countries, such as Canada and Mexico, will be subject
to on-going coordination arrangements with neighboring countries.

[66 FR 29920, June 4, 2001]

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Sec. 24.131 Authorized bandwidth.

The authorized bandwidth of narrowband PCS channels will be 10 kHz for 12.5 kHz channels and 45 kHz for 50 kHz channels. For aggregated adjacent channels, a maximum authorized bandwidth of 5 kHz less than the total aggregated channel width is permitted.

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Sec. 24.132 Power and antenna height limits.

(a) Stations transmitting in the 901-902 MHz band are limited to 7
watts e.r.p.

(b) Mobile stations transmitting in the 930-931 MHz and 940-941 MHz

bands are limited to 7 watts e.r.p.

(c) Base stations transmitting in the 930-931 MHz and 940-941 MHz bands are limited to 3500 watts e.r.p. per authorized channel and are unlimited in antenna height except as provided in paragraph (d) of this section.

(d)(1) MTA and regional base stations located between 200 kilometers (124 miles) and 80 kilometers (50 miles) from their licensed service area border are limited to the power levels in the following table:

Antenna HAAT in meters (feet) (see Sec. 24.53 for HAAT calculation method)	Effective radiated power (e.r.p.) (watts)
183 (600) and below.....	3500
183 (600) to 208 (682).....	3500 to 2584
208 (682) to 236 (775).....	2584 to 1883
236 (775) to 268 (880).....	1883 to 1372
268 (880) to 305 (1000).....	1372 to 1000
305 (1000) to 346 (1137).....	1000 to 729
346 (1137) to 394 (1292).....	729 to 531
394 (1292) to 447 (1468).....	531 to 387
447 (1468) to 508 (1668).....	387 to 282
508 (1668) to 578 (1895).....	282 to 206
578 (1895) to 656 (2154).....	206 to 150
656 (2154) to 746 (2447).....	150 to 109
746 (2447) to 848 (2781).....	109 to 80
848 (2781) to 963 (3160).....	80 to 58
963 (3160) to 1094 (3590).....	58 to 42
1094 (3590) to 1244 (4080).....	42 to 31
1244 (4080) to 1413 (4636).....	31 to 22
Above 1413 (4636).....	16

(2) For heights between the values listed in the table, linear interpolation shall be used to determine maximum e.r.p.

(e) MTA and regional base stations located less than 80 kilometers (50 miles) from the licensed service area border must limit their effective radiated power in accordance with the following formula:

$$PW = 0.0175 \times dkm^{**} \times 6.6666 \times hm^{**} \times -3.1997$$

PW is effective radiated power in watts

dkm is distance in kilometers

hm is antenna HAAT in meters; see Sec. 24.53 for HAAT calculation method

(f) All power levels specified in this section are expressed in terms of the maximum power, averaged over a 100 millisecond interval, when measured with instrumentation calibrated in terms of an rms-equivalent voltage with a resolution bandwidth equal to or greater than the authorized bandwidth.

(g) Additionally, PCS stations will be subject to any power limits imposed by international agreements.

[58 FR 59183, Nov. 8, 1993; 59 FR 15269, Mar. 31, 1994, as amended at 62 FR 27511, May 20, 1997; 65 FR 35853, June 6, 2000]

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Sec. 24.133 Emission limits.

(a) The power of any emission shall be attenuated below the transmitter

power (P), as measured in accordance with Sec. 24.132(f), in accordance with the following schedule:

(1) For transmitters authorized a bandwidth greater than 10 kHz:

(i) On any frequency outside the authorized bandwidth and removed from the edge of the authorized bandwidth by a displacement frequency ($f < \text{INF} > d < / \text{INF} >$ in kHz) of up to and including 40 kHz: at least $116 \text{ Log} < \text{INF} > 10 < / \text{INF} > ((f < \text{INF} > d < / \text{INF} > + 10) / 6.1)$ decibels or $50 + 10 \text{ Log} < \text{INF} > 10 < / \text{INF} > (P)$ decibels or 70 decibels, whichever is the lesser attenuation;

(ii) On any frequency outside the authorized bandwidth and removed from the edge of the authorized bandwidth by a displacement frequency ($f < \text{INF} > d < / \text{INF} >$ in kHz) of more than 40 kHz: at least $43 + 10 \text{ Log} < \text{INF} > 10 < / \text{INF} > (P)$ decibels or 80 decibels, whichever is the lesser attenuation.

(2) For transmitters authorized a bandwidth of 10 kHz:

(i) On any frequency outside the authorized bandwidth and removed from the edge of the authorized bandwidth by a displacement frequency ($f < \text{INF} > d < / \text{INF} >$ in kHz) of up to and including 20 kHz: at least $116 \times \text{Log} < \text{INF} > 10 < / \text{INF} > ((f < \text{INF} > d < / \text{INF} > + 5) / 3.05)$ decibels or $50 + 10 \times \text{Log} < \text{INF} > 10 < / \text{INF} > (P)$ decibels or 70 decibels, whichever is the lesser attenuation;

(ii) On any frequency outside the authorized bandwidth and removed from the edge of the authorized bandwidth by a displacement frequency ($f < \text{INF} > d < / \text{INF} >$ in kHz) of more than 20 kHz: at least $43 + 10 \text{ Log} < \text{INF} > 10 < / \text{INF} > (P)$ decibels or 80 decibels, whichever is the lesser attenuation.

(b) 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.

(c) 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.

(d) The following minimum spectrum analyzer resolution bandwidth settings will be used: 300 Hz when showing compliance with paragraphs (a)(1)(i) and (a)(2)(i) of this section; and 30 kHz when showing compliance with paragraphs (a)(1)(ii) and (a)(2)(ii) of this section.

as amended at 59 FR 14119, Mar. 25, 1994; 66 FR 10968, Feb. 21, 2001]

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Sec. 24.134 Co-channel separation criteria.

The minimum co-channel separation distance between base stations in different service areas is 113 kilometers (70 miles). A co-channel separation distance is not required for the base stations of the same licensee or when the affected parties have agreed to other co-channel separation distances.

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Sec. 24.135 Frequency stability.

(a) The frequency stability of the transmitter shall be maintained within [plusmn] 0.0001 percent ([plusmn] 1 ppm) of the center frequency over a temperature variation of -30[deg] Celsius to +50[deg] Celsius at normal supply voltage, and over a variation in the primary supply voltage of 85 percent to 115 percent of the rated supply voltage at a temperature of 20[deg] Celsius.

(b) For battery operated equipment, the equipment tests shall be performed using a new battery without any further requirement to vary supply voltage.

(c) It is acceptable for a transmitter to meet this frequency stability requirement over a narrower temperature range provided the transmitter ceases to function before it exceeds these frequency stability limits.

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Sec. 24.200 Scope.

Source: 59 FR 32854, June 24, 1994, unless otherwise noted.

This subpart sets out the regulations governing the licensing and operations of personal communications services authorized in the 1850-1910 and 1930-1990 MHz bands.

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Sec. 24.202 Service areas.

Broadband PCS service areas are Major Trading Areas (MTAs) and Basic Trading Areas (BTAs) as defined in this section. MTAs and BTAs are based on the Rand McNally 1992 Commercial Atlas & Marketing Guide, 123rd Edition, at pages 38-39 ("BTA/MTA Map"). Rand McNally organizes the 50 states and the District of Columbia into 47 MTAs and 487 BTAs. The BTA/MTA Map is available for public inspection

at the Office of Engineering and Technology's Technical Information Center, 445 12th Street, SW, Washington, DC 20554.

(a) The MTA service areas are based on the Rand McNally 1992 Commercial Atlas & Marketing Guide, 123rd Edition, at pages 38-39, with the following exceptions and additions:

- (1) Alaska is separated from the Seattle MTA and is licensed separately.
- (2) Guam and the Northern Mariana Islands are licensed as a single MTA-like area.
- (3) Puerto Rico and the United States Virgin Islands are licensed as a single MTA-like area.
- (4) American Samoa is licensed as a single MTA-like area.

(b) The BTA service areas are based on the Rand McNally 1992 Commercial Atlas & Marketing Guide, 123rd Edition, at pages 38-39, with the following additions licensed separately as BTA-like areas: American Samoa; Guam; Northern Mariana Islands; Mayaguez/Aguadilla-Ponce, Puerto Rico; San Juan, Puerto Rico; and the United States Virgin Islands. The Mayaguez/Aguadilla-Ponce BTA-like 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, Mayaguez, Maricao, Maunabo, Moca, Patillas, Penuelas, Ponce, Quebradillas, Rincon, Sabana Grande, Salinas, San German, Santa Isabel, Villalba, and Yauco. The San Juan BTA-like service area consists of all other municipios in Puerto Rico.

[59 FR 32854, June 24, 1994; 59 FR 40835, Aug. 10, 1994; 63 FR 68952, Dec. 14, 1998; 65 FR 53636, Sept. 5, 2000]

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- (4) American Samoa is licensed as a single MTA-like area.

(b) The BTA service areas are based on the Rand McNally 1992 Commercial Atlas & Marketing Guide, 123rd Edition, at pages 38-39, with the following additions licensed separately as BTA-like areas: American Samoa; Guam; Northern Mariana Islands; Mayaguez/Aguadilla-Ponce, Puerto Rico; San Juan, Puerto Rico; and the United States Virgin Islands. The Mayaguez/Aguadilla-Ponce BTA-like 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, Mayaguez, Maricao, Maunabo, Moca, Patillas, Penuelas, Ponce, Quebradillas, Rincon, Sabana Grande, Salinas, San German, Santa Isabel, Villalba, and Yauco. The San Juan BTA-like service area consists of all other municipios in Puerto Rico.

[59 FR 32854, June 24, 1994; 59 FR 40835, Aug. 10, 1994; 63 FR 68952, Dec. 14, 1998; 65 FR 53636, Sept. 5, 2000]

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Sec. 24.203 Construction requirements.

(a) Licensees of 30 MHz blocks must serve with a signal level sufficient to provide adequate service to at least one-third of the population in their licensed area within five years of being licensed and two-thirds of the population in their licensed area within 10 years of being licensed. Licensees may choose to define population using the 1990 census or the 2000 census. Failure by any licensee to meet these requirements will result in forfeiture or non-renewal of the license and the licensee will be ineligible to regain it.

(b) Licensees of 10 MHz blocks, including 10 MHz C block licenses reconfigured pursuant to Amendment of the Commission's Rules Regarding Installment Payment Financing for Personal Communications Services (PCS)

Licensees, WT Docket No. 97-82, Sixth Report and Order, FCC 00-313, and 15 MHz blocks resulting from the disaggregation option as provided in the Commission's Rules Regarding Installment payment Financing for Personal Communications Services (PCS) Licensees, Second Report and Order and Further Notice of Proposed Rule Making, WT Docket 97-82, 12 FCC Rcd 16436 (1997), as modified by Order on Reconsideration of the Second Report and Order, WT Docket 97-82, 13 FCC Rcd 8345 (1998), must serve with a signal level sufficient to provide adequate service to at least one-quarter of the population in their licensed area within five years of being licensed, or make a showing of substantial service in their licensed area within five years of being licensed. Population is defined as the 1990 population census. Licensees may elect to use the 2000 population census to determine the five-year construction requirement. Failure by any licensee to meet these requirements will result in forfeiture of the license and the licensee will be ineligible to regain it.

(c) Licensees must file maps and other supporting documents showing compliance with the respective construction requirements within the appropriate five- and ten-year benchmarks of the date of their initial licenses.

[58 FR 59183, Nov. 8, 1993, as amended at 64 FR 26890, May 18, 1999; 65 FR 53636, Sept. 5, 2000]

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Sec. 24.229 Frequencies.

The frequencies available in the Broadband PCS service are listed in this section in accordance with the frequency allocations table of Sec. 2.106 of this chapter.

(a) The following frequency blocks are available for assignment on an MTA basis:

Block A: 1850-1865 MHz paired with 1930-1945 MHz; and

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Block B: 1870-1885 MHz paired with 1950-1965 MHz.

(b) The following frequency blocks are available for assignment on a BTA basis:

Block C: 1895-1910 MHz paired with 1975-1990 MHz;

Pursuant to Amendment of the Commission's Rules Regarding Installment Payment Financing for Personal Communications Services (PCS) Licensees, WT Docket No. 97-82, Sixth Report and Order, FCC 00-313, all 30 MHz Block C licenses available for auction in Auction No. 35 or any subsequent auction will be reconfigured into three 10 MHz C block licenses as follows: 1895-1900 MHz paired with 1975-1980 MHz, 1900-1905 MHz paired with 1980-1985 MHz, 1905-1910 MHz paired with 1985-1990 MHz;

Block D: 1865-1870 MHz paired with 1945-1950 MHz;

Block E: 1885-1890 MHz paired with 1965-1970 MHz;

Block F: 1890-1895 MHz paired with 1970-1975 MHz;

[59 FR 32854, June 24, 1994, as amended at 60 FR 13917, Mar. 15, 1995; 60 FR 26375, May 17, 1995; 61 FR 33868, July 1, 1996; 62 FR 660, Jan. 6, 1997; 65 FR 53637, Sept. 5, 2000]

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Sec. 24.232 Power and antenna height limits.

(a) Base stations are limited to 1640 watts peak equivalent isotropically radiated power (e.i.r.p.) with an antenna height up to 300 meters HAAT. See Sec. 24.53 for HAAT calculation method. Base station antenna heights may exceed 300 meters with a corresponding reduction in power; see Table 1 of this section. In no case may the peak output power of a base station transmitter exceed 100 watts. The service area boundary limit and microwave protection criteria specified in Sec. 24.236 and Sec. 24.237 apply.

Table 1.--Reduced Power for Base Station Antenna Heights Over 300 Meters

HAAT in meters	Maximum e.i.r.p. (watts)

[e]300.....	1,640
[e]500.....	1,070
[e]1,000.....	490
[e]1,500.....	270
[e]2,000.....	160

(b) Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

(c) 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.

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Sec. 24.235 Frequency stability.

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

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Sec. 24.236 Field strength limits.

The predicted or measured median field strength at any location on the border of the PCS service area shall not exceed 47 dBuV/m unless the parties agree to a higher field strength.

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Sec. 24.237 Interference protection.

- (a) All licensees are required to coordinate their frequency usage with the co-channel or adjacent channel incumbent fixed microwave licensees in the 1850-1990 MHz band. Coordination must occur before initiating operations from any base station. Problems that arise during the coordination process are to be resolved by the parties to the coordination. Licensees are required to coordinate with all users possibly affected, as determined by Appendix I to this subpart E (Appendix E of the Memorandum Opinion and Order, GEN Docket No. 90-314, FCC 94-144; TIA Telecommunications Systems Bulletin 10-F, "Interference Criteria for Microwave Systems," May 1994, (TSB10-F)); or an alternative method agreed to by the parties.
- (b) The results of the coordination process need to be reported to the Commission only if the parties fail to

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agree. Because broadband PCS licensees are required to protect fixed microwave licensees in the 1850-1990 MHz band, the Commission will be involved in the coordination process only upon complaint of interference from a fixed microwave licensee. In such a case, the Commission will resolve the issues.

(c) In all other respects, coordination procedures are to follow the requirements of Sec. 101.103(d) of this chapter to the extent that these requirements are not inconsistent with those specified in this part.

(d) The licensee must perform an engineering analysis to assure that the proposed facilities will not cause interference to existing OFS stations within the coordination distance specified in Table 2 of a magnitude greater than that specified in the criteria set forth in paragraph (e) and (f) of this section, unless there is prior agreement with the affected OFS licensee. Interference calculations shall be based on the sum of the power received at the terminals of each microwave receiver from all of the applicant's current and proposed PCS operations.

Table 2.--Coordination Distances In Kilometers
[PCS Base Station Antenna HAAT in Meters]

e.i.r.p. (W)	5	10	20	50	100	150	200	250	300	500
			1000	1500	2000					
0.1.....	90	93	99	110	122	131	139	146	152	
	173	210	239	263						
0.5.....	96	100	105	116	128	137	145	152	158	
	179	216	245	269						
1.....	99	103	108	119	131	140	148	155	161	
	182	219	248	272						
2.....	120	122	126	133	142	148	154	159	164	
	184	222	250	274						
5.....	154	157	161	168	177	183	189	194	198	
	213	241	263	282						
10.....	180	183	187	194	203	210	215	220	225	
	240	268	291	310						
20.....	206	209	213	221	229	236	242	247	251	
	267	296	318	337						
50.....	241	244	248	255	264	271	277	282	287	
	302	331	354	374						
100.....	267	270	274	282	291	297	303	308		
	313	329	358	382	401					
200.....	293	296	300	308	317	324	330	335		
	340	356	386	409	.....				
500.....	328	331	335	343	352	359	365	370		
	375	391	421	.....	.....			
1000.....	354	357	361	369	378	385	391	397		
	402	418	.....	.....	.....		
1200.....	361	364	368	376	385	392	398	404		
	409	.....	.....	.....	.....	
1640.....	372	375	379	388	397	404	410	416		
	421	.....	.....	.....	.....	

Note: If actual value does not match table values, round to the closest higher value on this table. See Section 24.53 for HAAT calculation method.

(e) For microwave paths of 25 kilometers or less, interference determinations shall be based on the C/I criteria set forth in TIA Telecommunications Systems Bulletin 10-F, ``Interference Criteria for

Microwave Systems," May 1994 (TSB10-F).

(f) For microwave paths longer than 25 kilometers, the interference protection criterion shall be such that the interfering signal will not produce more than 1.0 dB degradation of the practical threshold of the microwave receiver for analog system, or such that the interfering signal will not cause an increase in the bit error rate (BER) from 10E-6 to 10E-5 for digital systems.

(g) The development of the C/I ratios and interference criteria specified in paragraphs (e) and (f) of this section and the methods employed to compute the interfering power at the microwave receivers shall follow generally acceptable good engineering practices. The procedures described for computing interfering signal levels in (Appendix I to this subpart E Appendix E of the Memorandum Opinion and Order, GEN Docket No. 90-314, FCC 94-144) shall be applied. Alternatively, procedures for determining interfering signal levels and other criteria as may be developed by the Electronics Industries Association (EIA), the Institute of Electrical and Electronics Engineers, Inc. (IEEE), the American National Standards Institute (ANSI) or any other recognized authority will be acceptable to the Commission.

[59 FR 32854, June 24, 1994, as amended at 61 FR 29691, June 21, 1996]

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Sec. 24.238 Emission limits.

- (a) On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the

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transmitter power (P) by at least $43 + 10 \log (P)$ dB.

- (b) Compliance with these provisions 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 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.

- (c) 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.

- (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.

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Sec. 24.239 Cost-sharing requirements for broadband PCS.

Frequencies in the 1850-1990 MHz band listed in Sec. 101.147(c) of this chapter have been allocated for use by PCS. In accordance with procedures specified in Secs. 101.69 through 101.81 of this chapter, PCS entities (both licensed and unlicensed) are required to relocate the existing Fixed Microwave Services (FMS) licensees in these bands if interference to the existing FMS operations would occur. All PCS entities who benefit from spectrum clearance by other PCS entities or a voluntarily relocating microwave incumbent, must contribute to such relocation costs. PCS entities may satisfy this requirement by entering into private cost-sharing agreements or agreeing to terms other than those specified in Sec. 24.243. However, PCS entities are required to reimburse other PCS 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 Sec. 24.241) from PCS entities that are not parties to the agreement. The cost-sharing plan is in effect during all phases of microwave relocation specified in Sec. 101.69 of this chapter.

[62 FR 12757, Mar. 18, 1997]

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Sec. 24.241 Administration of the Cost-Sharing Plan.

The Wireless Telecommunications Bureau, under delegated authority, will select an entity to operate as a neutral, not-for-profit clearinghouse. This clearinghouse will administer the cost-sharing plan by, inter alia, maintaining all of the cost and payment records related to the relocation of each link and determining the cost-sharing obligation of subsequent PCS entities. The cost-sharing rules will not take effect until an administrator is selected.

[61 FR 29691, June 12, 1996]

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Sec. 24.243 The cost-sharing formula.

A PCS relocater 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:

[GRAPHIC] [TIFF OMITTED] TR12JN96.001

(a) RN equals the amount of reimbursement.

(b) C equals the actual cost of relocating the link. 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

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civil works; zoning costs; training; disposal of old equipment; test equipment (vendor required); spare equipment; project management; prior coordination notification under Sec. 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. 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. C may not exceed \$250,000 per link, with an additional \$150,000 permitted if a new or modified tower is required.

(c) N equals the number of PCS entities that would have interfered with the link. For the PCS relocater, N=1. For the next PCS entity that would have interfered with the link, N=2, and so on. In the case of a voluntarily relocating microwave incumbent, N=1 for the first PCS entity that would have interfered with the link. For the next PCS entity that would have interfered with the link, N=2, and so on.

(d) Tm equals the number of months that have elapsed between the month the PCS relocater or voluntarily relocating microwave incumbent obtains reimbursement rights for the link and the month that the clearinghouse notifies a later-entrant of its reimbursement obligation for the link. A PCS relocater 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 Sec. 101.305 of the Commission's rules.

[62 FR 12757, Mar. 18, 1997, as amended at 65 FR 46113, July 27, 2000]

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Sec. 24.**245** Reimbursement under the Cost-Sharing Plan.

- (a) Registration of reimbursement rights. (1) To obtain reimbursement, a PCS relocater must submit documentation of the relocation agreement to the clearinghouse within ten business days of the date a relocation agreement is signed with an incumbent.
- (2) To obtain reimbursement, a voluntarily relocating microwave

incumbent must submit documentation of the relocation of the link to the clearinghouse within ten business 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 Sec. 101.305 of the Commission's rules.

(b) Documentation of expenses. Once relocation occurs, the PCS relocater or the voluntarily relocating microwave incumbent, must submit documentation itemizing the amount spent for items listed in Sec. 24.243(b). 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 Sec. 24.243(b). The PCS relocater 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). If a PCS relocater pays a microwave incumbent a monetary sum to relocate its own facilities, the PCS relocater must estimate the costs associated with relocating the incumbent by itemizing the anticipated cost for items listed in Sec. 24.243(b). If the sum paid to the incumbent cannot be accounted for, the remaining amount is not eligible for reimbursement. A PCS relocater may submit receipts or other documentation to the clearinghouse for all relocation expenses incurred since April 5, 1995.

(c) Full Reimbursement. A PCS relocater who relocates a microwave link that is either fully outside its market area or its licensed frequency band

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may seek full reimbursement through the clearinghouse of compensable costs, up to the reimbursement cap as defined in Sec. 24.243(b). Such reimbursement will not be subject to depreciation under the cost-sharing formula.

[61 FR 29692, June 12, 1996, as amended at 62 FR 12757, Mar. 18, 1997;
65 FR 46113, July 27, 2000]

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Sec. 24.247 Triggering a reimbursement obligation.

(a) Licensed PCS. The clearinghouse will apply the following test to determine if a PCS entity preparing to initiate operations must pay a PCS relocater or a voluntarily relocating microwave incumbent in accordance with the formula detailed in Sec. 24.243:

- (1) All or part of the relocated microwave link was initially co-channel with the licensed PCS band(s) of the subsequent PCS entity;
- (2) A PCS relocater has paid the relocation costs of the microwave incumbent; and

(3) The subsequent PCS entity is 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:

[GRAPHIC] [TIFF OMITTED] TC01MR91.041

(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 subsequent PCS entity of the total amount of its reimbursement obligation.

(b) Unlicensed PCS. UTAM's reimbursement obligation is triggered either:

(1) When a county is cleared of microwave links in the unlicensed allocation, and UTAM invokes a Zone 1 power cap as a result of third party relocation activities; or

(2) A county is cleared of microwave links in the unlicensed allocation and UTAM reclassifies a Zone 2 county to Zone 1 status.

[61 FR 29692, June 12, 1996, as amended at 62 FR 12757, Mar. 18, 1997]

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Sec. 24.249 Payment issues.

(a) Timing. On the day that a PCS entity files its prior coordination notice (PCN) in accordance with Sec. 101.103(d) of this chapter, it must file a copy of the

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PCN with the clearinghouse. The clearinghouse will determine if any reimbursement obligation exists and notify the PCS entity in writing of its repayment obligation, if any. When the PCS entity receives a written copy of such obligation, it must pay directly to the PCS relocater or the voluntarily relocating microwave incumbent the amount owed within thirty days, with the exception of those businesses that qualify for installment payments. A business that qualifies for an installment payment plan must make its first installment payment within thirty days of notice from the clearinghouse. UTAM's first payment will be due thirty days after its reimbursement obligation is triggered, as described in Sec. 24.247(b).

(b) Eligibility for Installment Payments. PCS licensees that are allowed to pay for their licenses in installments under our designated entity rules will have identical payment options available to them with respect to payments under the cost-sharing plan. The specific terms of the installment payment mechanism, including the treatment of principal and interest, are the same as those applicable to the licensee's installment auction payments. If, for any reason, the entity eligible for installment payments is no longer eligible for such installment payments on its license, that entity is no longer eligible for installment payments under the cost-sharing plan. UTAM may make quarterly payments over a five-year period with an interest rate of prime plus 2.5 percent. UTAM may also negotiate separate repayment arrangements with other parties.

[61 FR 29693, June 12, 1996, as amended at 62 FR 12757, Mar. 18, 1997]

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Sec. 24.251 Dispute resolution under the Cost-Sharing Plan.

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 ADR procedures, such as binding arbitration, mediation, or other ADR techniques.

[61 FR 29693, June 12, 1996]

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Sec. 24.**253** Termination of cost-sharing obligations.

The cost-sharing plan will sunset for all PCS entities on April 4, 2005, which is ten years after the date that voluntary negotiations commenced for A and B block PCS entities. Those PCS entities that are paying their portion of relocation costs on an installment basis must continue the payments until the obligation is satisfied.

[61 FR 29693, June 12, 1996]

Appendix I to Subpart E of Part 24--A Procedure for Calculating PCS Signal Levels at Microwave Receivers (Appendix E of the Memorandum Opinion and Order)

The new Rules adopted in Part 24 stipulate that estimates of interference to fixed microwave operations from a PCS operation will be based on the sum of signals received at a microwave receiver from the PCS operation. This appendix describes a procedure for computing this PCS level.

In general, the procedure involves four steps:

1. Determine the geographical coordinates of all microwave receivers operating on co-channel and adjacent frequencies within the coordination distance of each base station and the characteristics of each receiver, i.e., adjacent channel susceptibility, antenna gain, pattern and height, and line and other losses.
2. Determine an equivalent isotropically radiated power (e.i.r.p.) for each base station and equivalent e.i.r.p. values for the mobiles and portables associated with each base station. Determine the values of pertinent correction and weighting factors based on building heights and density and distribution of portables. Close-in situations, prominent hills, and extra tall buildings require special treatment.
3. Based on PCS e.i.r.p. values, correction and weighting factors, and microwave receiving system characteristics determined above, calculate the total interference power at the input of each microwave receiver, using the Longley-Rice propagation model.
4. Based on the interference power level computed in step 3, determine interference to each microwave receiver using criteria described in Part 24 and EIA/TIA Bulletin 10-F.

The interference from each base station and the mobiles and portables associated with it is calculated as follows:

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$$\begin{aligned}
 P_{rbi} &= 10 \log (p_{tbi}) - L_{bi} - UC_i + G_{mwi} - C_i - BP_i \\
 P_{rmi} &= 10 \log (n_{mi} x p_{tmi}) - L_{mi} - UC_i + G_{mwi} - C_i \\
 P_{rpsi} &= 10 \log (n_{psi} x p_{tpsi}) - L_{psi} - UC_i + G_{mwi} - C_i \\
 P_{rpbj} &= 10 \log (n_{pbj} x p_{tpbj}) - L_{pbj} - UC_i - (BP_i - BH_i) \\
 &\quad + G_{mwi} - C_i
 \end{aligned}$$

$$P_{pri} = 10 \log (n_{pri} x p_{pri}) - L_{pri} - (UC_i - BH_i) + G_{mwi} - C_i$$

where:

P refers to Power in dBm

p refers to power in milliwatts

P_{rbi} = Power at MW receiver from ith base station in dBm

p_{tbi} = e.i.r.p. transmitted from ith base station in milliwatts, which equals average power per channel x number of channels x antenna gain with respect to an isotropic antenna-- line loss

L_{bi} = Path loss between MW and base station site in dB

UC_i = Urban correction factor in dB

G_{mwi} = Gain of MW antenna in pertinent direction (dBi)

C_i = Channel discrimination of MW system in dB

P_{rmi} = Power at MW receiver from mobiles associated with ith base station

p_{tmi} = e.i.r.p. transmitted from mobiles associated with ith base station

n_{mi} = Number of mobiles associated with ith base station

L_{mi} = Path loss between MW and mobile transmitters in dB

P_{rpsi} = Power at MW receiver from outdoor portables (s for sidewalk)

p_{tpsi} = e.i.r.p. transmitted from outdoor portables associated with ith base station

n_{psi} = Number of outdoor portables associated with ith base station

L_{psi} = Path loss between MW and outdoor portables in dB

P_{rpb} = Power at MW receiver from indoor portables (b for building)

p_{tpbi} = e.i.r.p. transmitted from indoor portables associated with ith base station

n_{pbi} = number of indoor portables associated with ith base station

L_{pbi} = Path loss in dB between MW and base station site (using average building height divided by 2 as effective antenna height)

P_{rpr} = Power at MW receiver from rooftop portables (r for rooftop)

$p_{pri} = \text{e.i.r.p. transmitted from rooftop portables associated with } i\text{th base station}$

$n_{pri} = \text{Number of rooftop portables associated with } i\text{th base station}$

$L_{pri} = \text{Path loss in dB between MW and base station site (using average building height as effective antenna height)}$

$BP_i = \text{Building penetration loss at street level in dB}$

$BH_i = \text{Height gain for portables in buildings dB} = 2.5 \times (nf - 1)$,
where nf is number of floors

Note: where C_i varies from channel-to-channel, which often is the case, the summation process is more complex, requiring summation at a channel level first.

Finally, the total PCS interference power at a given microwave receiver from all the base stations in a given frequency band is found by summing the contributions from the individual stations. Likewise, the total interference power at a given microwave receiver from all mobiles and portables operating in a given frequency band is found by summing the contributions from the mobiles and portables associated with each cell.

[GRAPHIC] [TIFF OMITTED] TR24JN94.017

Base Stations. Interference from each base station to each microwave should normally be considered independently. A group of base stations having more or less (within [plusmn] 50 percent) the same height above average terrain, the same e.i.r.p., basically the same path to a microwave receiving site, and subtending an angle to that receiving site of less than 5 degrees, may be treated as a group, using the total power of the group and the average antenna height of the group to calculate path loss, L .

Mobile Stations. The e.i.r.p. from mobile transmitters is weighted according to the number of base station channels expected to be devoted to mobile operation at any given time. The antenna height of mobiles used in calculating path loss, L , is assumed to be 2 meters.

Portable Stations. The e.i.r.p. from the portable units associated with each base station

is weighted according to the estimated portion of portables associated with that cell expected to be operated inside buildings at any given time and the portion which could be expected to be operating from elevated locations, such as balconies or building rooftops. For example, in the case of service intended for business use in an urban area, one might expect that perhaps 85 percent of the portables in use at any given time would be operating from within buildings and perhaps 5 percent might be operating from rooftops or balconies. The remaining 10 percent would be outside at street level.

Calculation of an equivalent e.i.r.p. for cells in suburban areas will involve different weighting criteria.

Urban Correction Factor. The urban correction factor (UC) depends on the height and density of buildings surrounding a base station. For the core area of large cities, it is assumed to be 35 dB. For medium size cities and fringe areas of large cities (4- to 6-story buildings with scattered taller buildings and lower buildings and open spaces) it is assumed to be 25 dB; for small cities and towns, 15 dB, and for suburban residential areas (one- and two-story, single family houses with scattered multiple-story apartment buildings, shopping centers and open areas), 10 dB.

The unadjusted urban correction factor, UC, should not be applied to base station antenna heights that are greater than 50 percent of the average building height for a cell.

Building Height and Building Penetration Factors. The building height correction, BH, is a function of the average building height within the nominal coverage area of the base station. It is used in conjunction with the building penetration loss, BP, to adjust the expected interference contribution from that portion of the portables transmitting from within buildings. The adjustment is given by:

$$\begin{aligned}BP &= 20 \text{ dB in urban areas} \\BP &= 10 \text{ dB in suburban areas} \\BH &= 2.5 \times (nf - 1) \text{ dB}\end{aligned}$$

where nf is the average height (number of floors) of the buildings in the area.

(Note that this formula implies a net gain when the average building height is greater than 8 floors). All buildings more than twice the

average height should be considered individually. The contribution to BH from that portion of portables in the building above the average building height should be increased by a factor of $20\text{Log}(h)$ dB, where h is the height of the portables above the average building height in meters.

Channel Discrimination Factor. A factor based on the interference selectivity of the microwave receiver.

Propagation Model. The PCS to microwave path loss, L , is calculated using the Longley-Rice propagation model, Version 1.2.2., in the point-to-point mode. The Longley-Rice [1] model was derived from NBS Technical Note 101 [2], and updated in 1982 by Hufford [3]. Version 1.2.2 incorporated modifications described in a letter by Hufford [4] in 1985. Terrain elevations used as input to the model should be from the U.S. Geological Survey 3-second digitized terrain database.

Special Situations. If a cell size is large compared to the distance between the cell and a microwave receiving site so that it subtends an angle greater than 5 degrees, the cell should be subdivided and calculations should be based on the expected distribution of mobiles and portables within each subdivision.

If terrain elevations within a cell differ by more than a factor of two-to-one, the cell should be subdivided and microwave interference calculations should be based on the average terrain elevation for each subdivision.

If a co-channel PCS base station lies within the main beam of a microwave antenna (± 5 degrees), there is no intervening terrain obstructions, and the power at the microwave receiver from that base station, assuming free space propagation, would be 3 dB or less below the interference threshold, interference will be assumed to exist unless the PCS licensee can demonstrate otherwise by specific path loss calculations based on terrain and building losses.

If any part of a cell or cell subdivision lies within the main beam of a co-channel microwave antenna, there is no intervening terrain obstructions, and the accumulative power of 5 percent or less of the mobiles, assuming free space propagation would be 3 dB or less below the interference threshold, interference will be assumed to exist unless the PCS licensee can demonstrate otherwise by specific path loss calculations based on terrain and building losses.

If a building within a cell or cell subdivision lies within the main beam of a co-channel microwave antenna, there is no intervening terrain obstructions, and the cumulative power of 5 percent or fewer of the

portables, assuming free space propagation, would be 3 dB or less below the interference threshold, interference will be assumed to exist unless the PCS licensee can demonstrate otherwise by specific path loss calculations based on terrain and building losses.

References:

1. Longley, A.G. and Rice, P.L., ``Prediction of Tropospheric Radio Transmission Loss Over Irregular Terrain, A Computer Method-1968'', ESSA Technical Report ERL 79-ITS 67, Institute for Telecommunications Sciences, July 1968.
2. Rice, P.L. Longley, A.G., Norton, K.A., Barsis, A.P., ``Transmission Loss Predictions for Tropospheric Communications Circuits,"

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NBS Technical Note 101 (Revised), Volumes I and II, U.S. Department of Commerce, 1967.

3. Hufford, G.A., Longley, A.G. and Kissick, W.A., ``A Guide to the use of the ITS Irregular Terrain Model in the Area Prediction Mode'', NTIA Report 82-100, U.S. Department of Commerce, April 1982. Also, Circular letter, dated January 30, 1985, from G.A. Hufford, identifying modifications to the computer program.

4. Hufford, G.A., Memorandum to Users of the ITS Irregular Terrain Model, Institute for Telecommunications Sciences, U.S. Department of Commerce, January 30, 1985.

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Subpart F--Competitive Bidding Procedures for Narrowband PCS

Sec. 24.301 Narrowband PCS subject to competitive bidding.

Source: 59 FR 26747, May 24, 1994, unless otherwise noted.

Mutually exclusive initial applications for narrowband PCS service licenses 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 45367, July 9, 2002]

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Sec. 24.321 Designated entities.

(a) Eligibility for small business provisions. (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.

(3) A consortium of small businesses (or a consortium of very small businesses) is a conglomerate organization formed as a joint venture between or among mutually independent business firms, each of which individually satisfies the definition in paragraph (a)(1) of this section (or each of which individually satisfies the definition in paragraph (a)(2) of this section). Where an applicant or licensee is a consortium of small businesses (or very small businesses), the gross revenues of each small business (or very small business) shall not be aggregated.

(b) Bidding credits. (1) After August 7, 2000, 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 Sec. 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 Sec. 1.2110(f)(2)(ii) of this chapter.

(2)(i) Businesses owned by members of minority groups and women, including small businesses owned by members of minority groups and women, that are winning bidders on nationwide licenses on Channel 5, Channel 8, and Channel 11 prior to August 7, 2000 will be eligible for a twenty-five (25) percent bidding credit.

(ii) Businesses owned by members of minority groups and women, including small businesses owned by members of minority groups and women, that are winning bidders on regional licenses on Channel 13 and Channel 17 prior to August 7, 2000 will be eligible for a forty (40) percent bidding credit.

(c) Installment payments. Small businesses, including small businesses owned by members of minority groups and women, that are winning bidders on any regional license prior to August 7, 2000 will be eligible to pay the full amount of their winning bids in installments over the term of the license pursuant to the terms set forth in Sec. 1.2110(g) of this chapter.

[67 FR 45367, July 9, 2002]

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Sec. 24.403 Authorization required.

Source: 59 FR 26749, May 24, 1994, unless otherwise noted.

No person shall use or operate any device for the transmission of
energy or communications by radio in the services authorized by this
part except as provided in this part.

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Sec. 24.430 Opposition to applications.

(a) Petitions to deny (including petitions for other forms of relief) and responsive pleadings for Commission consideration must comply with Sec. 1.2108 of this chapter and must:

- (1) Identify the application or applications (including applicant's name, station location, Commission file numbers and radio service involved) with which it is concerned;
- (2) Be filed in accordance with the pleading limitations, filing periods, and other applicable provisions of Secs. 1.41 through 1.52 of this chapter except where otherwise provided in Sec. 1.2108 of this chapter;
- (3) Contain specific allegations of fact which, except for facts of which official notice may be taken, shall be supported by affidavit of a person or persons with personal knowledge thereof, and which shall be sufficient to demonstrate that the petitioner (or respondent) is a party in interest and that a grant of, or other Commission action regarding, the application would be prima facie inconsistent with the public interest; and

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- (4) Contain a certificate of service showing that it has been mailed

to the applicant no later than the date of filing thereof with the
Commission.

(b) A petition to deny a major amendment to a previously filed application may only raise matters directly related to the amendment which could not have been raised in connection with the underlying, previously filed application. This does not apply to petitioners who gain standing because of the major amendment.

(c) Parties who file frivolous petitions to deny may be subject to sanctions including monetary forfeitures, license revocation, if they are FCC licensees, and may be prohibited from participating in future auctions.

[59 FR 44072, Aug. 26, 1994, as amended at 65 FR 35855, June 6, 2000]

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Secs. 24.702-24.708 [Reserved]

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Sec. 24.709 Eligibility for licenses for frequency Blocks C or F.

(a) General rule for licenses offered for closed bidding. (1) No application is acceptable for filing and no license shall be granted to

a winning bidder in closed bidding for frequency block C or frequency block F, unless the applicant, together with its affiliates and persons or entities that hold interests in the applicant and their affiliates, have had gross revenues of less than \$125 million in each of the last two years and total assets of less than \$500 million at the time the applicant's short-form application (Form 175) is filed.

(2) Any licensee awarded a license won in closed bidding pursuant to the eligibility requirements of this section (or pursuant to Sec. 24.839(a)(2)) shall maintain its eligibility until at least five years from the date of initial license grant, except that a licensee's (or other attributable entity's) increased gross revenues or increased total assets due to nonattributable equity investments (i.e., from sources whose gross revenues and total assets are not considered under paragraph (b) of this section), debt financing, revenue from operations or other investments, business development, or expanded service shall not be considered.

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(3) Tiers. (i) For purposes of determining spectrum to which the eligibility requirements of this section are applicable, the BTA service areas (see Sec. 24.202(b)) are divided into two tiers according to their population as follows:

(A) Tier 1: BTA service areas with population equal to or greater than 2.5 million;

(B) Tier 2: BTA service areas with population less than 2.5 million.

(ii) For Auction No. 35, the population of individual BTA service areas will be based on the 1990 census. For auctions beginning after the start of Auction No. 35, the population of individual BTA service areas will be based on the most recent available decennial census.

(4) Application of eligibility requirements. (i) The following categories of licenses will be subject to closed bidding pursuant to the eligibility requirements of this section in auctions that begin after the effective date of this paragraph.

(A) For Tier 1 BTAs, one of the 10 MHz C block licenses (1895-1900 MHz paired with 1975-1980 MHz);

(B) For Tier 2 BTAs, two of the 10 MHz C block licenses (1895-1900 MHz paired with 1975-1980 MHz; 1900-1905 MHz paired with 1980-1985 MHz) and all 15 MHz C block licenses.

(ii) Notwithstanding the provisions of paragraph (a)(4)(i) of this

section, any C block license for operation on spectrum that has been offered, but not won by a bidder, in closed bidding in any auction beginning on or after March 23, 1999, will not be subject in a subsequent auction to closed bidding pursuant to the eligibility requirements of this section.

(5) Special rule for licensees disaggregating or returning certain spectrum in frequency block C.

(i) In addition to entities qualifying for closed bidding under paragraph (a)(1) of this section, any entity that was eligible for and participated in the auction for frequency block C, which began on December 18, 1995, or the reauction for frequency block C, which began on July 3, 1996, will be eligible to bid for C block licenses offered in closed bidding in any reauction of frequency block C spectrum that begins within two years of March 23, 1999.

(ii) In cases of merger, acquisition, or other business combination of entities, where each of the entities is eligible to bid for C block licenses offered in closed bidding in any reauction of C block spectrum on the basis of the eligibility exception set forth in paragraph (a)(5)(i) of this section, the resulting entity will also be eligible for the exception specified in paragraph (a)(5)(i) of this section.

(iii) In cases of merger, acquisition, or other business combination of entities, where one or more of the entities are ineligible for the exception set forth in paragraph (a)(5)(i) of this section, the resulting entity will not be eligible pursuant to paragraph (a)(5)(i) of this section unless an eligible entity possesses de jure and de facto control over the resulting entity.

(iv) The following restrictions will apply for any reauction of frequency block C spectrum conducted after March 24, 1998:

(A) Applicants that elected to disaggregate and surrender to the Commission 15 MHz of spectrum from any or all of their frequency block C licenses, as provided in Amendment of the Commission's Rules Regarding Installment Payment Financing for Personal Communications Services (PCS) Licensees, Second Report and Order and Further Notice of Proposed Rule Making, WT Docket No. 97-82, 12 FCC Rcd 16,436 (1997), as modified by the Order on Reconsideration of the Second Report and Order, WT Docket No. 97-82, FCC 98-46 (rel. Mar. 24, 1998), will not be eligible to apply for such disaggregated spectrum until 2 years from the start of the reauction of that spectrum.

(B) Applicants that surrendered to the Commission any of their frequency block C licenses, as provided in Amendment of the Commission's

Rules Regarding Installment Payment Financing for Personal Communications Services (PCS) Licensees, Second Report and Order and Further Notice of Proposed Rule Making, WT Docket No. 97-82, 12 FCC Rcd 16,436 (1997), as modified by the Order on Reconsideration of the Second Report and Order, WT Docket No. 97-82, FCC 98-46 (rel. Mar. 24, 1998), will not be eligible to apply for the licenses that they surrendered to the

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Commission until 2 years from the start of the reacquisition of those licenses if they elected to apply a credit of 70% of the down payment they made on those licenses toward the prepayment of licenses they did not surrender.

(b) Exceptions to general rule. (1) Scope. The following provisions apply to licenses acquired in Auctions No. 5, 10, 11 or 22, or pursuant to Sec. 24.839(a)(2) or (a)(3) prior to October 30, 2000.

(i) Small business consortia. Where an applicant (or licensee) is a consortium of small businesses, the gross revenues and total assets of each small business shall not be aggregated.

(ii) Publicly-traded corporations. Where an applicant (or licensee) is a publicly traded corporation with widely dispersed voting power, the gross revenues and total assets of a person or entity that holds an interest in the applicant (or licensee), and its affiliates, shall not be considered.

(iii) 25 Percent equity exception. The gross revenues and total assets of a person or entity that holds an interest in the applicant (or licensee), and its affiliates, shall not be considered so long as:

(A) Such person or entity, together with its affiliates, holds only nonattributable equity equaling no more than 25 percent of the applicant's (or licensee's) total equity;

(B) Except as provided in paragraph (b)(1)(v) of this section, such person or entity is not a member of the applicant's (or licensee's) control group; and

(C) The applicant (or licensee) has a control group that complies with the minimum equity requirements of paragraph (b)(1)(v) of this section, and, if the applicant (or licensee) is a corporation, owns at least 50.1 percent of the applicant's (or licensee's) voting interests, and, if the applicant (or licensee) is a partnership, holds all of its general partnership interests.

(iv) 49.9 Percent equity exception. The gross revenues and total assets of a person or entity that holds an interest in the applicant (or licensee), and its affiliates, shall not be considered so long as:

(A) Such person or entity, together with its affiliates, holds only nonattributable equity equaling no more than 49.9 percent of the applicant's (or licensee's) total equity;

(B) Except as provided in paragraph (b)(1)(vi) of this section, such person or entity is not a member of the applicant's (or licensee's) control group; and

(C) The applicant (or licensee) has a control group that complies with the minimum equity requirements of paragraph (b)(1)(vi) of this section and, if the applicant (or licensee) is a corporation, owns at least 50.1 percent of the applicant's (or licensee's) voting interests, and, if the applicant (or licensee) is a partnership, holds all of its general partnership interests.

(v) Control group minimum 25 percent equity requirement. In order to be eligible to exclude gross revenues and total assets of persons or entities identified in paragraph (b)(1)(iii) of this section, and applicant (or licensee) must comply with the following requirements:

(A) Except for an applicant (or licensee) whose sole control group member is a preexisting entity, as provided in paragraph (b)(1)(v)(B) of this section, at the time the applicant's short-form application (Form 175) is filed and until at least three years following the date of initial license grant, the applicant's (or licensee's) control group must own at least 25 percent of the applicant's (or licensee's) total equity as follows:

(1) At least 15 percent of the applicant's (or licensee's) total equity must be held by qualifying investors, either unconditionally or in the form of options exercisable, at the option of the holder, at any time and at any exercise price equal to or less than the market value at the time the applicant files its short-form application (Form 175);

(2) Such qualifying investors must hold 50.1 percent of the voting stock and all general partnership interests within the control group, and must have de facto control of the control group and of the applicant;

(3) The remaining 10 percent of the applicant's (or licensee's) total equity may be owned, either unconditionally or in the form of stock options, by any of the following entities, which may not comply with Sec. 24.720(i)(1):

(i) Institutional Investors;

- (ii) Noncontrolling existing investors in any preexisting entity that is a member of the control group;

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- (iii) Individuals that are members of the applicant's (or licensee's) management; or

- (iv) Qualifying investors, as specified in Sec. 24.720(i)(4).

(4) Following termination of the three-year period specified in paragraph (b)(1)(v)(A) of this section, qualifying investors must continue to own at least 10 percent of the applicant's (or licensee's) total equity unconditionally or in the form of stock options subject to the restrictions in paragraph (b)(1)(v)(A)(1) of this section. The restrictions specified in paragraphs (b)(1)(v)(A)(3)(i) through (b)(1)(v)(A)(3)(iv) of this section no longer apply to the remaining equity after termination of such three-year period.

(B) At the election of an applicant (or licensee) whose control group's sole member is a preexisting entity, the 25 percent minimum equity requirements set forth in paragraph (b)(1)(v)(A) of this section shall apply, except that only 10 percent of the applicant's (or licensee's) total equity must be held in qualifying investors, and that the remaining 15 percent of the applicant's (or licensee's) total equity may be held by qualifying investors, or noncontrolling existing investors in such control group member or individuals that are members of the applicant's (or licensee's) management. These restrictions on the identity of the holder(s) of the remaining 15 percent of the licensee's total equity no longer apply after termination of the three-year period specified in paragraph (b)(1)(v)(A) of this section.

(vi) Control group minimum 50.1 percent equity requirement. In order to be eligible to exclude gross revenues and total assets of persons or entities identified in paragraph (b)(1)(iv) of this section, an applicant (or licensee) must comply with the following requirements:

(A) Except for an applicant (or licensee) whose sole control group member is a preexisting entity, as provided in paragraph (b)(1)(vi)(B) of this section, at the time the applicant's short-form application (Form 175) is filed and until at least three years following the date of initial license grant, the applicant's (or licensee's) control group must own at least 50.1 percent of the applicant's (or licensee's) total equity as follows:

- (1) At least 30 percent of the applicant's (or licensee's) total

equity must be held by qualifying investors, either unconditionally or in the form of options, exercisable at the option of the holder, at any time and at any exercise price equal to or less than the market value at the time the applicant files its short-form application (Form 175);

(2) Such qualifying investors must hold 50.1 percent of the voting stock and all general partnership interests within the control group and must have de facto control of the control group and of the applicant;

(3) The remaining 20.1 percent of the applicant's (or licensee's) total equity may be owned by qualifying investors, either unconditionally or in the form of stock options not subject to the restrictions of paragraph (b)(1)(vi)(A)(1) of this section, or by any of the following entities which may not comply with Sec. 24.720(i)(1):

(i) Institutional investors, either unconditionally or in the form of stock options;

(ii) Noncontrolling existing investors in any preexisting entity that is a member of the control group, either unconditionally or in the form of stock options;

(iii) Individuals that are members of the applicant's (or licensee's) management, either unconditionally or in the form of stock options; or

(iv) Qualifying investors, as specified in Sec. 24.720(i)(4).

(4) Following termination of the three-year period specified in paragraph (b)(1)(vi)(A) of this section, qualifying investors must continue to own at least 20 percent of the applicant's (or licensee's) total equity unconditionally or in the form of stock options subject to the restrictions in paragraph (b)(1)(vi)(A)(1) of this section. The restrictions specified in paragraph (b)(1)(vi)(A)(3)(i) through (b)(1)(vi)(A)(3)(iv) of this section no longer apply to the remaining equity after termination of such three-year period.

(B) At the election of an applicant (or licensee) whose control group's sole member is a preexisting entity, the 50.1 percent minimum equity requirements

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set forth in paragraph (b)(1)(vi)(A) of this section shall apply, except that only 20 percent of the applicant's (or licensee's) total equity must be held by qualifying investors, and that the remaining 30.1 percent of the applicant's (or licensee's) total equity may be held by qualifying investors, or noncontrolling existing investors in such

control group member or individuals that are members of the applicant's (or licensee's) management. These restrictions on the identity of the holder(s) of the remaining 30.1 percent of the licensee's total equity no longer apply after termination of the three-year period specified in paragraph (b)(1)(vi)(A) of this section.

(vii) Calculation of certain interests. Except as provided in paragraphs (b)(1)(v) and (b)(1)(vi) of this section, ownership interests shall be calculated on a fully diluted basis; all agreements such as warrants, stock options and convertible debentures will generally be treated as if the rights thereunder already have been fully exercised, except that such agreements may not be used to appear to terminate or divest ownership interests before they actually do so, in order to comply with the nonattributable equity requirements in paragraphs (b)(1)(iii)(A) and (b)(1)(iv)(A) of this section.

(viii) Aggregation of affiliate interests. Persons or entities that hold interest in an applicant (or licensee) that are affiliates of each other or have an identity of interests identified in Sec. 1.2110(c)(5)(iii) will be treated as though they were one person or entity and their ownership interests aggregated for purposes of determining an applicant's (or licensee's) compliance with the nonattributable equity requirements in paragraphs (b)(1)(iii)(A) and (b)(1)(iv)(A) of this section.

Example 1 for paragraph (b)(1)(viii). ABC Corp. is owned by individuals, A, B, and C, each having an equal one-third voting interest in ABC Corp. A and B together, with two-thirds of the stock have the power to control ABC Corp. and have an identity of interest. If A & B invest in DE Corp., a broadband PCS applicant for block C, A and B's separate interests in DE Corp. must be aggregated because A and B are to be treated as one person.

Example 2 for paragraph (b)(1)(viii). ABC Corp. has subsidiary BC Corp., of which it holds a controlling 51 percent of the stock. If ABC Corp. and BC Corp., both invest in DE Corp., their separate interests in DE Corp. must be aggregated because ABC Corp. and BC Corp. are affiliates of each other.

(2) The following provisions apply to licenses acquired pursuant to Sec. 24.839(a)(2) or (a)(3) on or after October 30, 2000. In addition to the eligibility requirements set forth at 24.709(a) and (b), applicants and/or licensees seeking to acquire C and/or F block licenses pursuant

to 24.839(a)(2) or (a)(3) will be subject to the controlling interest standard in 1.2110(c)(2) of this chapter for purposes of determining unjust enrichment payment obligations. See Sec. 1.2111 of this chapter.

(c) Short-form and long-form applications: Certifications and disclosure.

(1) Short-form application. In addition to certifications and disclosures required by part 1, subpart Q of this chapter, each applicant to participate in closed bidding for frequency block C or frequency block F shall certify on its short-form application (Form 175) that it is eligible to bid on and obtain such license(s), and (if applicable) that it is eligible for designated entity status pursuant to this section and Sec. 24.720, and shall append the following information as an exhibit to its Form 175:

(i) For all applicants: The applicant's gross revenues and total assets, computed in accordance with paragraphs (a) of this section and Sec. 1.2110(b)(1) through (b)(2) of this chapter.

(ii) For all applicants that participated in Auction Nos. 5, 10, 11, and/or 22:

(A) The identity of each member of the applicant's control group, regardless of the size of each member's total interest in the applicant, and the percentage and type of interest held;

(B) The citizenship and the gender or minority group classification for each member of the applicant's control group if the applicant is claiming status as a business owned by members of minority groups and/or women;

(C) The status of each control group member that is an institutional investor, an existing investor, and/or a member of the applicant's management;

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(D) The identify of each affiliate of the applicant and each affiliate of individuals or entities identified pursuant to paragraphs (c)(1)(ii)(A) and (c)(1)(ii)(C) of this section;

(E) A certification that the applicant's sole control group member is a preexisting entity, if the applicant makes the election in either paragraph (b)(1)(v)(B) or (b)(1)(vi)(B) of this section; and

(F) For an applicant that is a publicly traded corporation with widely disbursed voting power:

(1) A certified statement that such applicant complies with the

requirements of the definition of publicly traded corporation with widely disbursed voting power set forth in Sec. 24.720(h);

(2) The identify of each affiliate of the applicant.

(iii) For each applicant claiming status as a small business consortium, the information specified in paragraph (c)(1)(ii) of this section, for each member of such consortium.

(2) Long-form application. In addition to the requirements in subpart I of this part and other applicable rules (e.g., Secs. 20.6(e) and 20.9(b) of this chapter), each applicant submitting a long-form application for a license(s) for frequency block C or F shall in an exhibit to its long-form application:

- (i) Disclose separately and in the aggregate the gross revenues and total assets, computed in accordance with paragraphs (a) and (b) of this section, for each of the following: The applicant; the applicant's affiliates, the applicant's control group members; the applicant's attributable investors; and affiliates of its attributable investors;
- (ii) List and summarize all agreements or other instruments (with appropriate references to specific provisions in the text of such agreements and instruments) that support the applicant's eligibility for a license(s) for frequency block C or frequency block F and its eligibility under Secs. 24.711, 24.712, 24.714 and 24.720, including the establishment of de facto and de jure control; such agreements and instruments include articles of incorporation and bylaws, shareholder agreements, voting or other trust agreements, partnership agreements, management agreements, joint marketing agreements, franchise agreements, and any other relevant agreements (including letters of intent), oral or written; and
- (iii) List and summarize any investor protection agreements and identify specifically any such provisions in those agreements identified pursuant to paragraph (c)(2)(ii) of this section, including rights of first refusal, supermajority clauses, options, veto rights, and rights to hire and fire employees and to appoint members to boards of directors or management committees.

(3) Records maintenance. All applicants, including those that are winning bidders, shall maintain at their principal place of business an updated file of ownership, revenue and asset information, including those documents referenced in paragraphs (c)(2)(ii) and (c)(2)(iii) of this section and any other documents necessary to establish eligibility under this section or under the definitions of small business and/or business owned by members of minority groups and/or women. Licensees

(and their successors in interest) shall maintain such files for the term of the license. Applicants that do not obtain the license(s) for which they applied shall maintain such files until the grant of such license(s) is final, or one year from the date of the filing of their short-form application (Form 175), whichever is earlier.

(d) Definitions. The terms consortium of small businesses, control group, existing investor, institutional investor, nonattributable equity, preexisting entity, publicly traded corporation with widely dispersed voting power, qualifying investor, and small business used in this section are defined in Sec. 24.720.

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Sec. 24.711 Installment payments for licenses for frequency Block C.

Installment payments. Each eligible licensee of frequency Block C may pay the remaining 90 percent of the net auction price for the license in installment payments pursuant to Sec. 1.2110(f) of this chapter and under the following terms:

- (a) For an eligible licensee with gross revenues exceeding \$75 million (calculated in accordance with Sec. 1.2110(b) of

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this chapter and Sec. 24.709(b)) in each of the two preceding years (calculated in accordance with Sec. 1.2110(o) of this chapter), interest shall be imposed based on the rate for ten-year U.S. Treasury obligations applicable on the date the license is granted, plus 3.5 percent; payments shall include both principal and interest amortized over the term of the license.

(b) For an eligible licensee with gross revenues not exceeding \$75 million (calculated in accordance with Sec. 1.2110(b) of this chapter and Sec. 24.709(b)) in each of the two preceding years, interest shall be imposed based on the rate for ten-year U.S. Treasury obligations applicable on the date the license is granted, plus 2.5 percent; payments shall include interest only for the first year and payments of interest and principal amortized over the remaining nine years of the license term.

(c) For an eligible licensee that qualifies as a small business or as a consortium of small businesses, interest shall be imposed based on the rate for ten-year U.S. Treasury obligations applicable on the date the license is granted; payments shall include interest only for the first six years and payments of interest and principal amortized over the remaining four years of the license term.

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Sec. 24.712 Bidding credits for licenses won for frequency Block C.

(a) Except with respect to licenses won in closed bidding in auctions that begin after March 23, 1999, a winning bidder that qualifies as a small business or a consortium of small businesses as defined in Sec. 24.720(b)(1) or Sec. 24.720(b)(3) may use a bidding credit of fifteen percent, as specified in Sec. 1.2110(f)(2)(iii) of this chapter, to lower the cost of its winning bid.

(b) Except with respect to licenses won in closed bidding in auctions that begin after March 23, 1999, a winning bidder that qualifies as a very small business or a consortium of very small businesses as defined in Sec. 24.720(b)(2) or Sec. 24.720(b)(4) may use a bidding credit of twenty-five percent as specified in Sec. 1.2110(f)(2)(ii) of this chapter, to lower the cost of its winning bid.

(c) Unjust enrichment. The unjust enrichment provisions of Sec. 1.2111(d) and (e)(2) of this chapter shall not apply with respect to licenses acquired in either the auction for frequency block C that began on December 18, 1995, or the reauction of block C spectrum that began on July 3, 1996.

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Sec. 24.714 Partitioned licenses and disaggregated spectrum.

(a) Eligibility. (1) Parties seeking approval for partitioning and disaggregation shall request an authorization for partial assignment of a license pursuant to Sec. 24.839.

(2) Broadband PCS licensees in spectrum blocks A, B, D, and E and broadband PCS C and F block licenses not subject to the eligibility requirements of Sec. 24.709 may apply to partition their licensed geographic service area or disaggregate their licensed spectrum at any time following the grant of their licenses.

(3) Broadband PCS licensees that acquired C or F block licenses in closed bidding subject to the eligibility requirements of Sec. 24.709 may partition their licensed geographic service area or disaggregate their licensed spectrum at any time to an entity that meets the eligibility criteria set forth in Sec. 24.709 at the time the request for partial assignment of license is filed or to an entity that holds license(s) for frequency blocks C and F that met the eligibility criteria set forth in Sec. 24.709 at the time of receipt of such license(s). Partial assignment applications seeking partitioning or disaggregation of broadband PCS licenses in spectrum blocks C and F must include an attachment demonstrating compliance with this section.

(b) Technical standards--(1) Partitioning. In the case of partitioning, applicants and licensees must file FCC Form 603 pursuant to Sec. 1.948 of this chapter 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

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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.

(c) Installment payments--(1) Apportioning the balance on installment payment plans. When a winning bidder elects to pay for its license through an installment payment plan pursuant to Secs. 1.2110(g) of this chapter or 24.716, and partitions its licensed area or disaggregates spectrum to another party, the outstanding balance owed by the licensee on its installment payment plan (including accrued and unpaid interest) shall be apportioned between the licensee and partitionee or disaggregatee. Both parties will be responsible for paying their proportionate share of the outstanding balance to the U.S. Treasury. In the case of partitioning, the balance shall be apportioned based upon the ratio of the population of the partitioned area to the population of the entire original license area calculated based upon the most recent census data. In the case of disaggregation, the balance shall be apportioned based upon the ratio of the amount of spectrum disaggregated to the amount of spectrum allocated to the licensed area.

(2) Parties not qualified for installment payment plans.

(i) When a winning bidder elects to pay for its license through an installment payment plan, and partitions its license or disaggregates spectrum to another party that would not qualify for an installment payment plan or elects not to pay its share of the license through installment payments, the outstanding balance owed by the licensee (including accrued and unpaid interest shall be apportioned according to Sec. 24.714(c)(1)).

(ii) The partitionee or disaggregatee shall, as a condition of the approval of the partial assignment application, pay its entire pro rata amount within 30 days of Public Notice conditionally granting the partial assignment application. Failure to meet this condition will result in a rescission of the grant of the partial assignment application.

(iii) The licensee shall be permitted to continue to pay its pro rata share of the outstanding balance and shall receive new financing documents (promissory note, security agreement) with a revised payment obligation, based on the remaining amount of time on the original installment payment schedule. These financing documents will replace the licensee's existing financing documents, which shall be marked "superseded" and returned to the licensee upon receipt of the new financing documents. The original interest rate, established pursuant to Sec. 1.2110(g)(3)(i) of this chapter at the time of the grant of the

initial license in the market, shall continue to be applied to the licensee's portion of the remaining government obligation. The Bureau will require, as a further condition to approval of the partial assignment application, that the licensee execute and return to the U.S. Treasury the new financing documents within 30 days of the Public Notice conditionally granting the partial assignment application. Failure to meet this condition will result in the automatic cancellation of the grant of the partial assignment application.

(iv) A default on the licensee's payment obligation will only affect the licensee's portion of the market.

(3) Parties qualified for installment payment plans.

(i) Where both parties to a partitioning or disaggregation agreement qualify for installment payments, the partitionee or disaggregatee will be permitted to make installment payments on its portion of the remaining government obligations, as calculated according to Sec. 24.714(c)(1).

(ii) Each party will be required, as a condition to approval of the partial assignment application, to execute separate financing documents (promissory note, security agreement) agreeing to pay their pro rata portion of the balance due (including accrued and unpaid interest) based upon the installment payment terms for which they qualify under the rules. The financing documents must be returned to the U.S. Treasury within thirty (30) days of the Public Notice conditionally granting the partial assignment application.

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Failure by either party to meet this condition will result in the automatic cancellation of the grant of the partial assignment application. The interest rate, established pursuant to Sec. 1.2110(g)(3)(i) of this chapter at the time of the grant of the initial license in the market, shall continue to be applied to both parties' portion of the balance due. Each party will receive a license for their portion of the partitioned market or disaggregated spectrum.

(iii) A default on an obligation will only affect that portion of the market area held by the defaulting party.

(iv) Partitionees and disaggregatees that qualify for installment payment plans may elect to pay some of their pro rata portion of the balance due in a lump sum payment to the U.S. Treasury and to pay the remaining portion of the balance due pursuant to an installment payment

plan.

(d) 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 Sec. 24.15.

(e) Construction requirements--(1) Requirements for partitioning. Parties seeking authority to partition must meet one of the following construction requirements:

(i) The partitionee may certify that it will satisfy the applicable construction requirements set forth in Sec. 24.203 for the partitioned license area; or

(ii) The original licensee may certify that it has or will meet its five-year construction requirement and will meet the ten-year construction requirement, as set forth in Sec. 24.203, for the entire license area. In that case, the partitionee must only satisfy the requirements for "substantial service," as set forth in Sec. 24.16(a), for the partitioned license area by the end of the original ten-year license term of the licensee.

(iii) Applications requesting partial assignments of license for partitioning must include a certification by each party as to which of the above construction options they select.

(iv) Partitionees must submit supporting documents showing compliance with the respective construction requirements within the appropriate five- and ten-year construction benchmarks set forth in Sec. 24.203.

(v) Failure by any partitionee to meet its respective construction requirements will result in the automatic cancellation of the partitioned or disaggregated license without further Commission action.

(2) Requirements for disaggregation. Parties seeking authority to disaggregate must submit with their partial assignment application a certification signed by both parties stating which of the parties will be responsible for meeting the five- and ten-year construction requirements for the PCS market as set forth in Sec. 24.203. Parties may agree to share responsibility for meeting the construction requirements.

Parties that accept responsibility for meeting the construction requirements and later fail to do so will be subject to license forfeiture without further Commission action.

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Sec. 24.716 Installment payments for licenses for frequency Block F.

Installment Payments. Each eligible licensee of frequency Block F may pay the remaining 80 percent of the net auction price for the license in installment payments pursuant to Sec. 1.2110(g) of this chapter and under the following terms:

- (a) For an eligible licensee with gross revenues exceeding \$75 million (calculated in accordance with Sec. 1.2110(b) of this chapter and, when applicable, Sec. 24.709(b)) in each of the two preceding years (calculated in accordance with Sec. 1.2110(o) of this chapter), interest shall be imposed based on the rate for ten-year U.S. Treasury obligations applicable on the date the license is granted, plus 3.5 percent; payments shall include both principal and interest amortized over the term of the license;
- (b) For an eligible licensee with gross revenues not exceeding \$75 million (calculated in accordance with Sec. 1.2110(b) of this chapter and, when applicable, Sec. 24.709(b)) in each of the two preceding years (calculated in accordance with Sec. 1.2110(o) of this chapter), interest shall be imposed based on the rate for

ten-year U.S. Treasury obligations applicable on the date the license is granted, plus 2.5 percent; payments shall include interest only for the first year and payments of interest and principal amortized over the remaining nine years of the license term; or

(c) For an eligible licensee that qualifies as a small business or as a consortium of small businesses, interest shall be imposed based on the rate for ten-year U.S. Treasury obligations applicable on the date the license is granted; payments shall include interest only for the first two years and payments of interest and principal amortized over the remaining eight years of the license term.

[67 FR 45371, July 9, 2002]

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Sec. 24.717 Bidding credits for licenses for frequency Block F.

(a) Except with respect to licenses won in closed bidding in auctions that begin after March 23, 1999, a winning bidder that qualifies as a small business or a consortium of small businesses as defined in Sec. 24.720(b)(1) or Sec. 24.720(b)(3) may use a bidding credit of fifteen percent, as specified in Sec. 1.2110(f)(2)(iii) of

this chapter, to lower the cost of its winning bid.

(b) Except with respect to licenses won in closed bidding in auctions that begin after March 23, 1999, a winning bidder that qualifies as a very small business or a consortium of very small businesses as defined in Sec. 24.720(b)(2) or Sec. 24.720(b)(4) may use a bidding credit of twenty-five percent as specified in Sec. 1.2110(f)(2)(ii) of this chapter, to lower the cost of its winning bid.

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Sec. 24.720 Definitions.

(a) Scope. The definitions in this section apply to Secs. 24.709 through 24.717, unless otherwise specified in those sections.

(b) Small business; very small business; consortia.

(1) A small business is an entity that, together with its affiliates and persons or entities that hold interest in such entity and their affiliates, 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 persons or entities that hold interests in such entity and their affiliates, has average annual gross revenues that are not more than \$15 million for the preceding three years.

(3) A small business consortium is a conglomerate organization formed as a joint venture between or among mutually independent business firms, each of which individually satisfies the definition of a small business in paragraph (b)(1) of this section.

(4) A very small business consortium is a conglomerate organization formed as a joint venture between or among mutually independent business firms, each of which individually satisfies the definition of a very small business in paragraph (b)(2) of this section.

(c) Business Owned by Members of Minority Groups and/or Women. A business owned by members of minority groups and/or women is an entity:

(1) In which the qualifying investor members of an applicant's control group are members of minority groups and/or women who are United States citizens; and

(2) That complies with the requirements of Secs. 24.709(b)(1)(iii) and (b)(1)(v) or Sec. 24.709(b)(1)(iv) and (b)(vi).

(d) Small Business Owned by Members of Minority Groups and/or Women: Consortium of Small Businesses Owned by Members of Minority and/or Women. A Small business owned by members of minority groups and/or women is an entity that meets the definitions in both paragraphs (b) and (c) of this section. A consortium of small businesses owned by members of minority groups and/or women is a conglomerate organization formed as a joint venture between mutually-independent business firms, each of which individually satisfies the definitions in paragraphs (b) and (c) of this section.

(e) Institutional Investor. An institutional investor is an insurance company, a bank holding stock in trust accounts through its trust department, or an investment company as defined in 15 U.S.C. 80a-3(a), including within such definition any entity that would otherwise meet the definition of investment company under 15 U.S.C. 80a-3(a) but is excluded by the exemptions set forth in

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15 U.S.C. 80a-3(b) and (c), without regard to whether such entity is an issuer of securities; provided that, if such investment company is owned, in whole or in part, by other entities, such investment company, such other entities and the affiliates of such other entities, taken as

a whole, must be primarily engaged in the business of investing, reinvesting or trading in securities or in distributing or providing investment management services for securities.

(f) Nonattributable Equity. (1) Nonattributable equity shall mean:

(i) For corporations, voting stock or non-voting stock that includes no more than twenty-five percent of the total voting equity, including the right to vote such stock through a voting trust or other arrangement;

(ii) For partnerships, joint ventures and other non-corporate entities, limited partnership interests and similar interests that do not afford the power to exercise control of the entity.

(2) For purposes of assessing compliance with the equity limits in Secs. 24.709 (b)(1)(iii)(A) and (b)(1)(iv)(A), where such interests are not held directly in the applicant, the total equity held by a person or entity shall be determined by successive multiplication of the ownership percentages for each link in the vertical ownership chain.

(g) Control Group. A control group is an entity, or a group of individuals or entities, that possesses de jure control and de facto control of an applicant or licensee, and as to which the applicant's or licensee's charters, bylaws, agreements and any other relevant documents (and amendments thereto) provide:

(1) That the entity and/or its members own unconditionally at least 50.1 percent of the total voting interests of a corporation;

(2) That the entity and/or its members receive at least 50.1 percent of the annual distribution or any dividends paid on the voting stock of a corporation;

(3) That, in the event of dissolution or liquidation of a corporation, the entity and/or its members are entitled to receive 100 percent of the value of each share of stock in its possession and a percentage of the retained earnings of the concern that is equivalent to the amount of equity held in the corporation; and

(4) That, for other types of businesses, the entity and/or its members have the right to receive dividends, profits and regular and liquidating distributions from the business in proportion to the amount of equity held in the business.

Note to Paragraph (g): Voting control does not always assure de facto control, such as for example, when the voting stock of the control group is widely dispersed (see e.g., Sec. 1.2110(c)(5)(ii)(C) of this chapter).

(h) Publicly Traded Corporation with Widely Dispersed Voting Power.

A publicly traded corporation with widely dispersed voting power is a business entity organized under the laws of the United States:

(1) Whose shares, debt, or other ownership interests are traded on an organized securities exchange within the United States;

(2) In which no person:

(i) Owns more than 15 percent of the equity; or

(ii) Possesses, directly or indirectly, through the ownership of voting securities, by contract or otherwise, the power to control the election of more than 15 percent of the members of the board of directors or other governing body of such publicly traded corporation;
and

(3) Over which no person other than the management and members of the board of directors or other governing body of such publicly traded corporation, in their capacities as such, has de facto control.

(4) The term person shall be defined as in section 13(d) of the Securities and Exchange Act of 1934, as amended (15 U.S.C. 78(m)), and shall also include investors that are commonly controlled under the indicia of control set forth in the definition of affiliate in Sec. 1.2110(c)(5) of the Commission's rules.

(i) Qualifying Investor; Qualifying Minority and/or Woman Investor.

(1) A qualifying investor is a person who is (or holds an interest in) a member of the applicant's (or licensee's) control group and whose gross revenues and total assets, when aggregated with those of all other attributable investors and affiliates, do not exceed the gross revenues and total assets limits

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specified in Sec. 24.709(a), or, in the case of an applicant (or licensee) that is a small business, do not exceed the gross revenues limit specified in paragraph (b) of this section.

(2) A qualifying minority and/or woman investor is a person who is a qualifying investor under paragraph (i)(1) of this section, who is (or holds an interest in) a member of the applicant's (or licensee's) control group and who is a member of a minority group or a woman and a United States citizen.

(3) For purposes of assessing compliance with the minimum equity requirements of Sec. 24.709(b)(1)(v) and (b)(1)(vi), where such equity interests are not held directly in the applicant, interests held by qualifying investors or qualifying minority and/or woman investors shall

be determined by successive multiplication of the ownership percentages for each link in the vertical ownership chain.

(4) For purposes of Sec. 24.709 (b)(1)(v)(A)(3) and (b)(1)(vi)(A)(3), a qualifying investor is a person who is (or holds an interest in) a member of the applicant's (or licensee's) control group and whose gross revenues and total assets do not exceed the gross revenues and total assets limits specified in Sec. 24.709(a).

(j) Preexisting entity; Existing investor. A preexisting entity is an entity that was operating and earning revenues for at least two years prior to December 31, 1994. An existing investor is a person or entity that was an owner of record of a preexisting entity's equity as of November 10, 1994, and any person or entity acquiring de minimis equity holdings in a preexisting entity after that date.

Note to Paragraph (j): In applying the term existing investor to de minimis interests in preexisting entities obtained or increased after November 10, 1994, the Commission will scrutinize any significant restructuring of the preexisting entity that occurs after that date and will presume that any change of equity that is five percent or less of the preexisting entity's total equity is de minimis. The burden is on the applicant (or licensee) to demonstrate that changes that exceed five percent are not significant.

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Sec. 24.830 Opposition to applications.

(a) Petitions to deny (including petitions for other forms of relief) and responsive pleadings for Commission consideration must comply with Sec. 1.2108 of this chapter and must:

(1) Identify the application or applications (including applicant's name, station location, Commission file numbers and radio service involved) with which it is concerned;

(2) Be filed in accordance with the pleading limitations, filing periods, and other applicable provisions of Secs. 1.41 through 1.52 of this chapter except where otherwise provided in Sec. 1.2108 of this chapter;

(3) Contain specific allegations of fact which, except for facts of which official notice may be taken, shall be supported by affidavit of a person or persons with personal knowledge thereof, and which shall be sufficient to demonstrate that the petitioner (or respondent) is a party in interest and that a grant of, or other Commission action regarding, the application would be prima facie inconsistent with the public interest;

(4) Be filed within thirty (30) days after the date of public notice announcing the acceptance for filing of any such application or major amendment thereto (unless the Commission otherwise extends the filing deadline); and

(5) Contain a certificate of service showing that it has been mailed to the applicant no later than the date of filing thereof with the Commission.

(b) A petition to deny a major amendment to a previously-filed application may only raise matters directly related to the amendment which could not have been raised in connection with the underlying previously-filed application. This subsection does not apply, however, to petitioners who gain standing because of the major amendment.

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Sec. 24.831 Mutually exclusive applications.

(a) The Commission will consider applications for broadband PCS licenses to be mutually exclusive if they relate to the same geographical boundaries (MTA or BTA) and are timely filed for the same frequency block.

(b) Mutually exclusive applications filed on Form 175 for the initial provision of broadband PCS are subject to competitive bidding in accordance with the procedures in subpart H of this part and in part 1, subpart Q of this chapter.

(c) 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.

(d)-(j) [Reserved]

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Sec. 24.843 Extension of time to complete construction.

(a) If construction is not completed within the time period set forth in Sec. 24.203, the authorization will automatically expire. Before the period for construction expires an application for an extension of time to complete construction (FCC Form 489) may be filed.

See paragraph (b) of this section. Within 30 days after the authorization expires an application for reinstatement may be filed on FCC Form 489.

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(b) Extension of Time to Complete Construction. An application for extension of time to complete construction may be made on FCC Form 489. Extension of time requests must be filed prior to the expiration of the construction period. Extensions will be granted only if the licensee shows that the failure to complete construction is due to causes beyond its control.

(c) An application for modification of an authorization (under construction) does not extend the initial construction period. If

additional time to construct is required, an FCC Form 489 must be submitted.

(d) [Reserved]

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Subpart J--Required New Capabilities Pursuant to the Communications Assistance for Law Enforcement Act (CALEA)

Sec. 24.900 Purpose.

Source: 64 FR 51717, Sept. 24, 1999, unless otherwise noted.

Pursuant to the Communications Assistance for Law Enforcement Act (CALEA), Public Law 103-414, 108 Stat. 4279 (1994) (codified as amended in sections of 18 U.S.C. and 47 U.S.C.), this subpart contains rules that require a broadband PCS telecommunications carrier to implement certain capabilities to ensure law enforcement access to authorized communications or call-identifying information.

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Sec. 24.901 Scope.

The definitions included in this subpart shall be used solely for
the purpose of implementing CALEA requirements.

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Sec. 24.902 Definitions.

Call identifying information. Call identifying information means dialing or signaling information that identifies the origin, direction, destination, or termination of each communication generated or received by a subscriber by means of any equipment, facility, or service of a telecommunications carrier. Call identifying information is "reasonably available" to a carrier if it is present at an intercept access point and can be made available without the carrier being unduly burdened with network modifications.

Collection function. The location where lawfully authorized intercepted communications and call-identifying information is collected by a law enforcement agency (LEA).

Content of subject-initiated conference calls. Capability that permits a LEA to monitor the content of conversations by all parties connected via a conference call when the facilities under surveillance maintain a circuit connection to the call.

Destination. A party or place to which a call is being made (e.g., the called party).

Dialed digit extraction. Capability that permits a LEA to receive on the call data channel a digits dialed by a subject after a call is connected to another carrier's service for processing and routing.

Direction. A party or place to which a call is re-directed or the party or place from which it came, either incoming or outgoing (e.g., a redirected-to party or redirected-from party).

IAP. Intercept access point is a point within a carrier's system where some of the communications or call-identifying information of an intercept subject's equipment, facilities, and services are accessed.

In-band and out-of-band signaling. Capability that permits a LEA to be informed when a network message that provides call identifying information (e.g., ringing, busy, call waiting signal, message light) is generated or sent by the IAP switch to a subject using the facilities under surveillance. Excludes signals generated by customer premises equipment when no network signal is generated.

J-STD-025. The interim standard developed by the Telecommunications Industry Association and the Alliance for Telecommunications Industry Solutions for wireline, cellular, and broadband PCS carriers. This standard defines services and features to support lawfully authorized electronic surveillance, and specifies interfaces necessary to deliver

intercepted communications and call-identifying information to a LEA.

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LEA. Law enforcement agency; e.g., the Federal Bureau of Investigation or a local police department.

Origin. A party initiating a call (e.g., a calling party), or a place from which a call is initiated.

Party hold, join, drop on conference calls. Capability that permits a LEA to identify the parties to a conference call conversation at all times.

Subject-initiated dialing and signaling information. Capability that permits a LEA to be informed when a subject using the facilities under surveillance uses services that provide call identifying information, such as call forwarding, call waiting, call hold, and three-way calling. Excludes signals generated by customer premises equipment when no network signal is generated.

Termination. A party or place at the end of a communication path (e.g. the called or call-receiving party, or the switch of a party that has placed another party on hold).

Timing information. Capability that permits a LEA to associate call-identifying information with the content of a call. A call-identifying message must be sent from the carrier's IAP to the LEA's Collection Function within eight seconds of receipt of that message by the IAP at least 95% of the time, and with the call event time-stamped to an accuracy of at least 200 milliseconds.

[64 FR 51717, Sept. 24, 1999, as amended at 67 FR 22007, May 2, 2002]

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CHAPTER I--FEDERAL COMMUNICATIONS
COMMISSION (CONTINUED)

PART 24--PERSONAL COMMUNICATIONS SERVICES--Table of Contents

Subpart J--Required New Capabilities Pursuant to the Communications
Assistance for Law Enforcement Act (CALEA)

Sec. 24.903 Capabilities that must be provided by a broadband PCS telecommunications
carrier.

(a) Except as provided under paragraph (b) of this section, as of June 30, 2000, a broadband PCS telecommunications carrier shall provide to a LEA the assistance capability requirements of CALEA, see 47 U.S.C.

1002. A carrier may satisfy these requirements by complying with publicly available technical requirements or standards adopted by an industry association or standard-setting organization, such as J-STD-025.

(b) As of November 19, 2001, a broadband PCS telecommunications carrier shall provide to a LEA communications and call-identifying information transported by packet-mode communications.

(c) As of June 30, 2002, a broadband PCS telecommunications carrier shall provide to a LEA the following capabilities:

- (1) Content of subject-initiated conference calls;
- (2) Party hold, join, drop on conference calls;
- (3) Subject-initiated dialing and signaling information;
- (4) In-band and out-of-band signaling;
- (5) Timing information;
- (6) Dialed digit extraction, with a toggle feature that can activate/deactivate this capability.

[64 FR 51717, Sept. 24, 1999; 65 FR 18255, Apr. 7, 2000, as amended at 67 FR 22007, May 2, 2002]