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SOURCE: 44 FR 60534, Oct. 19, 1979, unless otherwise noted.

### Subpart A—General

#### § 21.1 Scope and authority.

(a) The purpose of the rules and regulations in this part is to prescribe the manner in which portions of the radio spectrum may be made available for domestic communication common carrier and multipoint distribution service non-common carrier operations which require transmitting facilities on land or in specified offshore coastal areas within the continental shelf.

(b) The rules in this part are issued pursuant to the authority contained in Titles I through III of the Communications Act of 1934, as amended, which vest authority in the Federal Communications Commission to regulate common carriers of interstate and foreign communications, to regulate radio transmissions and issue licenses for radio stations, and to regulate all interstate and foreign communications by wire and radio necessary to the accomplishment of the purposes of the Act.

(c) Unless otherwise specified, the section numbers referenced in this part are contained in chapter I, title 47 of the Code of Federal Regulations.

[52 FR 37776, Oct. 9, 1987]

#### § 21.2 Definitions.

As used in this part:

*Antenna power gain.* The square of the ratio of the root-mean-square free space field intensity produced at one mile in the horizontal plane, in millivolts per meter for one kilowatt antenna input power to 137.6 mV/m. This ratio should be expressed in decibels (dB). (If specified for a particular direction, antenna power gain is based on the field strength in that direction only.)

*Antenna power input.* The radio frequency peak or RMS power, as the case may be, supplied to the antenna from the antenna transmission line and its associated impedance matching network.

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*Antenna structures.* The antenna, its supporting structure and anything attached to it.

*Assigned frequency.* The centre 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.

*Authorized frequency.* The frequency, or frequency range, assigned to a station by the Commission and specified in the instrument of authorization.

*Authorized power.* The maximum power a station is permitted to use. This power is specified by the Commission in the station's authorization.

*Bandwidth occupied by an emission.* The band of frequencies comprising 99 percent of the total radiated power extended to include any discrete frequency on which the power is at least 0.25 percent of the total radiated power.

*Basic Trading Area (BTA).* The geographic areas by which the Multipoint Distribution Service is licensed. BTA boundaries are based on the Rand McNally 1992 Commercial Atlas and Marketing Guide, 123rd Edition, pp. 36-39, and include six additional BTA-like areas as specified in §21.924(b).

*Bit rate.* The rate of transmission of information in binary (two state) form in bits per unit time.

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

*BTA authorization holder.* The individual or entity authorized by the Commission to provide Multipoint Distribution Service to the population of a BTA.

*BTA service area.* The area within the boundaries of a BTA to which a BTA authorization holder may provide

Multipoint Distribution Service. This area excludes the protected service areas of incumbent MDS stations and previously proposed and authorized ITFS facilities, including registered receive sites.

*Carrier.* In a frequency stabilized system, the sinusoidal component of a modulated wave whose frequency is independent of the modulating wave; or the output of a transmitter when the modulating wave is made zero; or a wave generated at a point in the transmitting system and subsequently modulated by the signal; or a wave generated locally at the receiving terminal which when combined with the side bands in a suitable detector, produces the modulating wave.

*Carrier frequency.* The output of a transmitter when the modulating wave is made zero.

*Channel.* Unless otherwise specified, a channel under this part shall refer to a 6 MHz frequency block assigned pursuant to §§21.901(b) or 74.902(a) of this chapter.

*Communication common carrier.* Any person engaged in rendering communication service for hire to the public.

*Control point.* A control point is an operating position at which an operator responsible for the operation of the transmitter is stationed and which is under the control and supervision of the licensee.

*Control station.* A fixed station whose transmissions are used to control automatically the emissions or operations of another radio station at a specified location, or to transmit automatically to an alarm center telemetering information relative to the operation of such station.

*Coordination distance.* For the purpose of this part, the expression "coordination distance" means the distance from an earth station, within which there is a possibility of the use of a given transmitting frequency at this earth station causing harmful interference to stations in the fixed or mobile service, sharing the same band, or of the use of a given frequency for reception at this earth station receiving harmful interference from such stations in the fixed or mobile service.

*Digital modulation.* The process by which some characteristic (frequency,

phase, amplitude or combinations thereof) of a carrier frequency is varied in accordance with a digital signal, e.g. one consisting of coded pulses or states.

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

*Domestic fixed public service.* A fixed service, the stations of which are open to public correspondence, for radiocommunications originating and terminating solely at points all of which lie within:

- (a) The State of Alaska;
- (b) The State of Hawaii;
- (c) The contiguous 48 States and the District of Columbia; or
- (d) A single possession of the United States. Generally, in cases where service is afforded on frequencies above 72 MHz, radio-communications between the contiguous 48 States (including the District of Columbia) and Canada or Mexico, or radiocommunications between the State of Alaska and Canada, are deemed to be in the domestic fixed public service.

*Domestic public radio services.* The land mobile and domestic fixed public services the stations which are open to public correspondence.

NOTE: Part 80 of this chapter is applicable to the maritime services and fixed stations associated with the maritime services; part 87 of this chapter is applicable to aeronautical services.

*Earth station.* A station located either on the earth's surface or within the major portion of the earth's atmos-

phere and intended for communications:

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

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

*Equivalent Isotropically Radiated Power (EIRP).* The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna. This product may be expressed in watts or dB above 1 watt (dBW).

*Facsimile.* A form of telegraphy for the transmission of fixed images, with or without half-tones, with a view to their reproduction in a permanent form.

*Fixed earth station.* An earth station intended to be used at a specified fixed point.

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

*Frequency tolerance.* The maximum permissible departure by the centre frequency of the frequency band occupied by an emission from the assigned frequency or, by the characteristic frequency of an emission from the reference frequency. The frequency tolerance is expressed as a percentage or in Hertz.

*Harmful interference.* Interference which endangers the functioning of a radionavigation service or of other safety services or seriously degrades, obstructs, or repeatedly interrupts a radiocommunication service.

*Incumbent.* An MDS station that was authorized or proposed before September 15, 1995, including those stations that are subsequently modified, renewed or reinstated.

*Landing area.* A landing area means any locality, either of land or water, including airports and intermediate landing fields, which is used, or approved for use for the landing and take-off of aircraft, whether or not facilities are provided for the shelter, servicing, or repair of aircraft, or for receiving or discharging passengers or cargo.

*Microwave frequencies.* As used in this part, this term refers to frequencies of 890 MHz and above.

*Multichannel Multipoint Distribution Service (MMDS).* Those Multipoint Distribution Service Channels that use the frequency band 2596 MHz to 2644 MHz and associated 125 kHz channels.

*Multipoint Distribution Service (MDS).* A domestic public radio service rendered on microwave frequencies from one or more fixed stations transmitting to multiple receiving facilities located at fixed points. MDS also may encompass transmissions from response stations to response station hubs or associated fixed stations.

*Multipoint Distribution Service response station.* A fixed station operated by an MDS licensee, the lessee of MDS channel capacity or a subscriber of either to communicate with a response station hub or associated MDS station. A response station under this part may share facilities with other MDS response stations and/or one or more Instructional Television Fixed Service (ITFS) response stations authorized pursuant to §74.939 of this chapter or §74.940 of this chapter.

*Necessary bandwidth of emission.* For a given class of emission, the width of the frequency band that is just sufficient to ensure the transmission of information at the rate and with the quality required under specified conditions.

NOTE: The necessary bandwidth for an emission may be calculated using the formulas in §2.202 of this chapter.

*Partitioned service area authorization holder.* The individual or entity authorized by the Commission to provide Multipoint Distribution Service to the population of a partitioned service area.

*Partitioned service area (PSA).* The area within the coterminous boundaries of one of more counties or other geopolitical subdivisions, drawn from a BTA, to which an authorization holder may provide Multipoint Distribution Service or the area remaining in a BTA upon partitioning any portion of that BTA. This area excludes the protected service areas of incumbent MDS stations and previously proposed and authorized ITFS stations, including registered receive sites.

*Private line service.* A service whereby facilities for communication between two or more designated points are set aside for the exclusive use or availability for use of a particular customer and authorized users during stated periods of time.

*Public correspondence.* Any telecommunication which the offices and stations, by reason of their being at the disposal of the public, must accept for transmission.

*Radio station.* A separate transmitter or a group of transmitters under simultaneous common control, including the accessory equipment required for carrying on a radiocommunication service.

*Radiocommunication.* Telecommunication by means of radio waves.

*Rated power output.* The term “rated power output” of a transmitter means the normal radio frequency power output capability (Peak or Average Power) of a transmitter, under optimum conditions of adjustment and operation, specified by its manufacturer.

*Record communication.* Any transmission of intelligence which is reduced to visual record form at the point of reception.

*Reference frequency.* A frequency having a fixed and specified position with respect to the assigned frequency. The displacement of this frequency with respect to the assigned frequency has the same absolute value and sign that the displacement of the characteristic frequency has with respect to the center of the frequency band occupied by the emission.

*Relay station.* A fixed station used for the reception and retransmission of the signals of another station or stations.

*Repeater station.* A fixed station established for the automatic retransmission of radiocommunications received from one or more stations and directed to a specified receiver site.

*Response station hub.* A fixed facility licensed to an MDS licensee, and operated by an MDS licensee or the lessee of an MDS facility, for the reception of information transmitted by one or more MDS response stations that utilize digital modulation. A response station hub licensed under this part may

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share facilities with other MDS response station hubs, ITFS response station hubs authorized pursuant to §74.939 of this chapter, MDS signal booster stations, ITFS signal booster stations, MDS stations, and/or ITFS stations.

*Response station hub license.* A blanket license authorizing the operation of a single response station hub at a specific location and the operation of a specified number of associated digital response stations of one or more classes at unspecified locations within one or more regions of the response service area.

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

*Signal Booster Station.* An MDS station licensed for use in accordance with §21.913 that operates on one or more MDS channels. Signal booster stations are intended to augment service as part of a distributed transmission system where signal booster stations retransmit the signals of one or more MDS stations and/or originate transmissions on MDS channels. A signal booster station licensed under this part may share facilities with other MDS signal booster stations, ITFS signal booster stations authorized pursuant to §74.985 of this chapter, MDS response station hubs and/or ITFS response station hubs.

*Standby transmitter.* A transmitter installed and maintained for use in lieu of the main transmitter only during periods when the main transmitter is out of service for maintenance or repair.

*Symbol rate.* Modulation rate in bauds. This rate may be higher than the transmitted bit rate as in the case of coded pulses or lower as in the case of multilevel transmission.

*Television.* A form of telecommunication for transmission of transient images of fixed or moving objects.

*Television STL station (studio transmitter link).* A fixed station used for the

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transmission of television program material and related communications from a studio to the transmitter of a television broadcast station.

[61 FR 26671, May 28, 1996, as amended at 63 FR 65100, Nov. 25, 1998; 64 FR 63730, Nov. 22, 1999]

## Subpart B—Applications and Licenses

### GENERAL FILING REQUIREMENTS

#### §21.3 Station authorization required.

(a) No person shall use or operate apparatus for the transmission of energy or communications or signals by radio except under, and in accordance with, an appropriate authorization granted by the Federal Communications Commission. Except as otherwise provided herein, no construction or modification of a station may be commenced without an authorization from the Commission. Authorizations for domestic public fixed radio services are governed by the provisions of this part.

(b) If construction and or operation may have a significant environmental impact as defined by §1.1307 of the Commission's rules, the requisite environmental assessment as prescribed in §1.1311 of this chapter must be filed with the application and Commission environmental review must be completed before construction of the station is initiated. See §1.1312 of this chapter.

[52 FR 37777, Oct. 9, 1987, as amended at 55 FR 20397, May 16, 1990; 61 FR 26673, May 28, 1996]

#### §21.4 Eligibility for station license.

A station license may not be granted to or held by:

(a) Any alien or the representative of any alien.

(b) Any foreign government or the representative thereof.

(c) Any corporation organized under the laws of any foreign government.

(d) Any corporation of which more than one-fifth of the capital stock is owned of record or voted by: aliens or their representatives; a foreign government or representatives thereof; or any corporation organized under the laws of a foreign country.