

licensee an opportunity for hearing. **This condition shall remain in effect for one year following public notice that the holder of the authorization has notified the Commission of the commencement of service to the public.**

(b) Assignment of mobile channel to base or fixed transmitter. Each authorization that assigns to a base or fixed transmitter channel(s) that are designated in § 22.561 of this part for assignment to mobile transmitters has the following condition attached:

This authorization is subject to the condition that, if actual interference occurs as a result of operation of base or fixed facilities authorized herein to transmit on channel(s) designated in § 22.561 of the Commission's rules for assignment to mobile transmitters, the Commission may suspend the operation of such base or fixed facilities, in whole or in part, as necessary to eliminate the interference, without affording the licensee an opportunity for a hearing.

In considering whether cognizable interference is occurring to a fixed receiver used for receipt of transmissions on the mobile channel(s) from mobile stations, the Commission will consider only those fixed receivers that (1) are located within the reliable service area contour of the associated base station and (2) are located at heights above average terrain that are not in excess of that authorized for the nearest associated base station transmitting antenna.

§ 22.163 Minor modifications to existing stations.

Licensees may make modifications to existing stations without obtaining prior Commission approval, provided:

(a) Classification as minor. The modifications must be minor. Modifications to a station are minor if an application filed solely for the purpose of obtaining authorization for such modifications would be classified as minor in accordance with § 22.123.

(b) Locations near Canadian border. The facilities to be modified must not be located between Line A or Line C and the US-Canada border, **except for facilities on 931 MHz channels on which the U.S has priority.**

(c) Antenna structure clearance required. For any construction or alteration that would exceed the requirements of § 17.7 of this chapter, licensees must notify the appropriate Regional Office of the Federal Aviation Administration (FAA Form 7460-1) and file a request for antenna height clearance and obstruction marking and lighting specifications (FCC Form 854) with the FCC, FOB, Antenna Survey Branch, Washington,

DC 20554, unless the construction is for facilities that would be placed on an existing antenna structure without exceeding the height of the structure and the structure is already marked and lighted in accordance with applicable FCC specifications imposed on the licensee or on another licensee employing the same structure.

(d) Provision of information upon request. Licensees must supply administrative or technical information concerning the modified facilities upon request by the Commission.

(e) Decrease in the reliable service area and interference contours. Licensees of paging, radio telephone and rural radio facilities making changes in existing facilities that have the effect of decreasing the reliable service area contour (RSAC) or the interference contour (IC) of a transmitter that is a stand alone facility or part of a system defining a composite RSAC or composite IC shall notify the Commission of such changes within 15 days using Form 489 and shall include the full technical parameters of the changes by attaching Schedule B of Form 401. For purposes of this subsection the term "stand alone location" is defined as a location the RSAC and IC of which are not encompassed by or part of a composite RSAC or composite IC associated with a system comprised of multiple co-channel base stations under the common control of a single entity.

(f) Voluntary notification of minor changes. Licensees may voluntarily notify the Commission of minor changes and the addition of fill-in stations. Stations so notified may be entered into the commission's data base and the associated station file. Provided that such stations are otherwise in compliance with this Part, such stations shall be treated as protected stations in accordance with this Part.

(g) Addition or modification of transmitters within the core of a cellular system. Cellular licensees may add or modify transmitters within the core of their systems without notifying the Commission, provided that such changes will not affect the location of the outer boundary of the CGSA.

(h) Modifications of transmitters affecting the boundaries of a CGSA. Cellular carriers must notify the Commission on Form 489 whenever there is a minor change that would affect the location of the outer boundary of their CGSA.

§ 22.165 Additional transmitters for existing systems.

Licensees may operate additional transmitters at additional locations on the same channel or channel block as an existing system without obtaining prior Commission approval, provided:

(a) Locations near Canadian border. The additional transmitters must not be located between Line A or Line C and the US-Canada border **except in the case of a 931 MHz transmitter to be operated on a channel that has been coordinated between the U.S. and Canada and as to which the U. S. has priority.**

(b) Antenna structure clearance required. For any construction or alteration that would exceed the requirements of § 17.7 of this chapter, licensees must notify the appropriate Regional Office of the Federal Aviation Administration (FAA Form 7460-1) and file a request for antenna height clearance and obstruction marking and lighting specifications (FCC Form 854) with the FCC, FOB, Antenna Survey Branch, Washington, DC 20554, **unless the construction is for a facility that would be placed on an existing antenna structure without exceeding the height of the structure and the structure is already marked and lighted in accordance with applicable FCC specifications imposed on the licensee or on another licensee employing the same structure.**

(c) Environmental. The additional transmitters must not have a significant environmental effect, as defined by § 1.1301 et seq of this chapter.

(d) Paging and Radiotelephone Service. The provisions in this paragraph apply for stations in the Paging and Radiotelephone Service.

(1) The service area and interfering contours of the additional transmitter(s) must be totally encompassed by the composite service area contour and predicted interfering contour, respectively, of the existing station on the same channel; except that this limitation does not apply to nationwide network paging stations or in-building radiation systems **or to 931 MHz transmitters where the interference contour of the additional transmitter is totally encompassed by the interference contour of existing stations authorized following the submittal of an application on Form 401 to the Commission by the same licensee or an entity under common control.**

(2) Additional transmitters in the 43 MHz frequency range operate under developmental authority, subject to the conditions set forth § 22.411 of this part.

(3) The additional transmitters must not operate on control channels in the 470-512 MHz, 928 MHz, 932 MHz, 941 MHz and 959 MHz frequency ranges.

(e) Cellular Radiotelephone Service. The service area boundaries of the additional transmitters must remain within the market. After the five year fill-in period, the service area boundaries of the additional transmitters must remain within the CGSA. **Provided that the additional transmitters comply with the provisions of this Part, such transmitters shall be protected from interference in accordance with this Part.**

(f) Air-ground Radiotelephone Service. Ground stations may be added to Commercial Aviation air-ground systems at previously established ground station locations, pursuant to this section, subject to compliance with the applicable technical rules. This section does not apply to ~~General Aviation~~ air-ground stations in the 454/459 MHz band.

(g) Rural Radiotelephone Service. A "service area" and "interfering contours" must be determined using the same method as for stations in the Paging and Radiotelephone Service. The service area and interfering contours so determined for the additional transmitter(s) must be totally encompassed by the similarly determined composite service area contour and predicted interfering contour, respectively, of the existing station on the same channel.

(h) Offshore Radiotelephone Service. This section does not apply to stations in the Offshore Radiotelephone Service.

(i) Provision of information upon request. Upon request by the Commission, licensees must supply administrative or technical information concerning the additional transmitters.

§ 22.169 Metric Conversion Factors

In converting from English to metric units, the following factors shall be used:

meters	=	.3048 x	feet
kilometers	=	1.609 x	miles
square meters	=	1/.386 x	square miles

Unless specifically provided otherwise in this Part, rounding shall be to the nearest whole meter.

§ 22.303 Posting Maintenance of station authorizations.

The current authorization for each station must be retained as a permanent part of the station records. A clearly legible photocopy of the authorization must be ~~available~~ readily provided to a representative of the Commission at each regularly attended control point of the station. The station call sign must be clearly and legibly marked on every transmitter, other than mobile transmitters, of the station.

§ 22.313 Station identification.

The licensee of each station in the Public Mobile Services must ensure that the transmissions of that station are identified in accordance with the requirements of this section.

(a) Station identification is not required for transmissions by:

- (1) stations in the Cellular Radiotelephone Service;
- (2) ~~general-aviation~~ **454/459 MHz** ground stations in the Air-ground Radiotelephone Service;
- (3) rural subscriber stations using meteor burst propagation mode communications in the Rural Radiotelephone Service.

(b) For all other stations in the Public Mobile Services, station identification must be transmitted at the end of each transmission or series of transmissions. During prolonged or continuous series of transmissions, station identification must be transmitted at periodic intervals not to exceed ~~thirty~~ **sixty** minutes; ~~however,~~ **but** transmission of such periodic station identification may be temporarily delayed to avoid interrupting the continuity of any public communication ~~in progress~~ **waiting to be sent**, provided that station identification is transmitted at the conclusion of that public communication.

(c) Station identification must be transmitted by telephony using the English language or by telegraphy using the international Morse code, and in a form that can be received using equipment appropriate for the modulation type employed, and understood without the use of unscrambling devices. Station identification comprises transmission of the call sign assigned by the Commission to the station, however, the following may be used in lieu of the call sign:

- (1) for transmissions from subscriber operated transmitters, the telephone number or other designation assigned by the carrier, provided that a written record of such designations is maintained by the carrier;
- (2) for ~~general-aviation~~ **454/459 MHz** airborne mobile stations in the Air-ground Radiotelephone Service, the official FAA registration number of the aircraft;
- (3) for stations in the Paging and Radiotelephone Service, a call sign assigned to another station within the same system.

§ 22.325 Control points.

Each station in the Public Mobile Services must have at least one control point and a person on duty who is in charge of station operation. Each control point must have facilities that allow the person on duty to turn off the transmitters, provided however that the person on duty need not be physically present at the control point if there is posted at the control point in a location accessible to the Commission a telephone number by which the person on duty may be promptly contacted and such person has the capability to turn off the transmitters.

§ 22.357 Emission types.

All authorized stations in the Public Mobile services may transmit the standard emission types set forth in this section, regardless of whether or not they are listed on the station authorization. Before using any emission types other than those set forth in this section (e.g. amplitude compandored single sideband), licensees must ~~apply for and obtain authority to do so, and~~ **notify the Commission on Form 489**, explain in detail the reason ~~why such authority is needed for use of the emission, and explain how such emission complies with the requirements of Section 22.359~~. An explanation of the standard international emission designators used throughout the Commission's rules is contained in Subpart C of Part 2 of this chapter.

(a) All stations in the Public Mobile Services may transmit unmodulated emissions (NON) for short periods for equipment testing.

(b) All stations in the Paging and Radiotelephone Service, Rural Radiotelephone Service and Offshore Radiotelephone services may transmit the following:

(1) emission types: 15K0F2D, 16K0F3E, 16K0F3C, 16K0F1D, and 16K0F1E;

(2) emissions resulting from modulation of transmitters by sub-audible tones or other signals used to establish and/or maintain communications;

(3) continuous unmodulated emissions (NON), with a power at least 10 dB less than that authorized, to prevent false indication of channel occupation.

(c) All stations in the Cellular Radiotelephone Service may transmit the following emission types: 40K0F3E, 40K0F3D and 40K0F1D.

(d) The frequency deviation must not exceed 12 kHz for frequency modulated emissions with a bandwidth of 40 kHz, and 5 kHz for frequency modulated emissions with a bandwidth of 16 kHz.

§ 22.371 Disturbance of AM broadcast station antenna patterns.

Public Mobile Service licensees that construct or modify towers in the immediate vicinity of AM broadcast stations are responsible for measures necessary to correct the disturbance of the AM station antenna pattern which causes operation outside of the radiation parameters specified by the Commission for the AM station, if the disturbance occurred as a result of such construction or modification.

(a) If tower construction or modification is planned within 1 kilometer (0.6 mile) of a non-directional AM broadcast station tower, the Public Mobile Service licensee must notify the licensee of the AM broadcast station in advance of the planned construction or modification. Before and after measurements must be made to determine whether the construction or modification affected the AM station antenna pattern. The Public Mobile Service licensee is responsible for the installation and continued maintenance of any detuning apparatus necessary to ~~restore proper non-directional performance of the AM station tower~~ **eliminate any disturbance caused by such construction that has the effect of causing the AM station to operate outside of the radiation parameters specified by the Commission.**

(b) If tower construction or modification is planned within 3 kilometers (1.9 miles) of a directional AM broadcast station array, the Public Mobile Service licensee must notify the licensee of the AM broadcast station in advance of the planned construction or modification. A partial proof of performance must be made before and after the construction or modification to determine whether the AM station antenna pattern was affected. The Public Mobile Service licensee is responsible for the installation and continued maintenance of any detuning apparatus necessary to ~~restore proper performance of the AM station array~~ **correct the disturbance of the AM station antenna pattern which causes operation outside of the radiation parameters specified by the Commission for the AM station, if the disturbance occurred as a result of such construction or modification.**

§22.375 ~~Use of transmitters in other services prohibited.~~ **[Reserved]**

~~Base and fixed transmitters licensed in the Public Mobile services must not be used in any radio service other than a Public Mobile service.~~

§ 22.507 Number of transmitters per station.

The rules in this section concern the number of transmitters licensed under each station authorization in the Paging and Radiotelephone Service.

(a) ~~Unless otherwise allowed in this subpart, each station must comprise at least one separate and dedicated transmitter, providing~~ **Licenses may employ channel agile base station transmitters provided that such operation does not materially impair the**

~~ability of the licensee to render service to the public, for each transmitting channel at each location where that channel is assigned for use by that station on any channel authorized to the licensee.~~

(b) There is no limit to the number of transmitters that a station may comprise. However, transmitters within a station must be operationally related. Furthermore, it may become necessary, in certain cases, for the Commission to break up wide-area systems into two or more stations for administrative convenience. Except for nationwide paging and other operationally related transmitters, transmitters that are widely separated geographically are not licensed under a single authorization. The Commission may consolidate separately authorized stations upon request of the applicant, if appropriate under this section. ~~Notifications of proposed callsign consolidations consistent with this section may be filed on Form 489.~~

§ 22.509 Procedure for mutually exclusive applications.

Mutually exclusive applications in the Paging and Radiotelephone Service and the Rural Radiotelephone Service are processed in accordance with the rules in this section.

(a) First-filed. Except as provided in paragraphs (b) ~~and~~, (d), ~~and (e)~~ when mutually exclusive applications are pending, the earliest-filed (according to filing date) may be granted and the other application(s) dismissed without prejudice.

(b) Same filing date. Except as provided in paragraph (d) of this section, mutually exclusive applications filed on the same day (according to the filing date) or during a Commission specified filing window are included in a random selection process in which all applications receive an order of selection. After the random selection process, the application selected first may be granted and the application(s) excluded by it dismissed without prejudice. Any applications that are no longer excluded as a result of such dismissal(s) may be granted. Next, the earliest selected of any remaining mutually exclusive applications may be granted and any application(s) excluded by it dismissed without prejudice. As before, any applications that are no longer excluded as a result of dismissal(s) may be granted. This process continues until all the applications have been disposed.

(c) Filing date. For the purposes of this section, the filing date of an application is the date on which that application was received in a condition acceptable for filing or the date on which the most recently filed major amendment to that application was received, whichever is later, excluding major amendments in the following circumstances:

(1) the application has been listed as included in a random selection process and the Commission accepts the amendment pursuant to § 22.122(c);

(2) the amendment reflects only a change in ownership or control found by the Commission to be in the public interest;

(3) the amendment as received is defective or otherwise unacceptable for filing.

(d) Renewal. Mutually exclusive applications are designated for a comparative hearing if one application is a timely application for renewal.

(e) Expansion of wide area systems. The licensee or permittee of co-channel facilities within 250 km of a proposed facility may file an application that is mutually exclusive with the earlier filed application provided that such application is filed with the Commission within 30 days of the date of public notice accepting the earlier filed application for filing.

(f) Comparative hearings. An applicant in the Paging and Radio Telephone Service that has filed an application proposing to expand a wide area system that is mutually exclusive with another application may request that its application and those applications mutually exclusive with it be designated for hearing under the procedures set forth in §22.132. Such a request must be filed with the Commission within 30 days of the date of public notice (as defined in § 1.4) that the applications appear to be mutually exclusive. The request must include a demonstration of how the public interest would be served by using a comparative hearing procedure. If the Commission finds that the applicant satisfies the requirements of this paragraph, it shall determine whether the public interest would be served by using some form of comparative procedure instead of a lottery. The following applicants shall be eligible to make this request:

(1) An applicant proposing to add one or more transmitter locations to an authorized station on the same channel or channels for which it is already licensed and within 40 miles (64 km) of existing transmitter locations on those channels, and when the applicant demonstrates in its application a demand by its existing subscribers for the expanded service; or

(2) An applicant proposing to add one or more channels to an authorized station at the same location or other locations within 40 miles (64 km) of an existing transmitter location, if the channels to be added are in the same frequency band as those already authorized (i.e. low-band (35-43 MHz), VHF (150 MHz), UHF (450 MHz) or 900 MHz).

§ 22.537 Technical channel assignment criteria.

The rules in this section establish technical assignment criteria for the channels listed in § 22.531. These criteria permit channel assignments to be made in a manner such

that reception by public paging receivers of signals from base transmitters, within the service area of such base transmitters, is protected from interference caused by the operation of independent co-channel base transmitters.

(a) Contour overlap. The Commission may grant an application requesting assignment of a channel to a proposed base transmitter only if:

(1) the interfering contour of the proposed transmitter does not overlap the service contour of any protected co-channel transmitter controlled by a carrier other than the applicant, unless that carrier has agreed in writing to accept any interference that may result from operation of the proposed transmitter; and,

(2) the service contour of the proposed transmitter does not overlap the interfering contour of any protected co-channel transmitter controlled by a carrier other than the applicant, unless the applicant agrees to accept any interference that may result from operation of the protected co-channel transmitter, and in the case of 931 MHz facilities the licensee of the interfering station and the station accepting the interference both agree to the short spacing; and,

(3) the area and/or population to which service would be provided by the proposed transmitter is substantial, and service gained would exceed that lost as a result of agreements to accept interference.

(b) Protected transmitter. For the purposes of this section, protected transmitters are authorized transmitters and transmitters proposed in prior-filed pending applications.

(c) VHF service contour. For paging stations transmitting on the VHF channels, the radial distance from the transmitting antenna to the service contour is calculated as follows:

$$d = 1.169 \times h^{0.40} \times p^{0.21}$$

where d is the radial distance in kilometers

h is the radial antenna HAAT in meters

p is the radial ERP in Watts

(1) Whenever the actual HAAT is less than 30 meters (98 feet), 30 must be used as the value for h in the above formula.

(2) The value used for p in the above formula must not be less than 27 dB less than the maximum ERP in any direction.

(d) VHF interfering contour. For paging stations transmitting on the VHF channels, the radial distance from the transmitting antenna to the interfering contour is calculated as follows:

$$d = 6.509 \times h^{0.28} \times p^{0.17}$$

d is the radial distance in kilometers

h is the radial antenna HAAT in meters

p is the radial ERP in Watts

(1) Whenever the actual HAAT is less than 30 meters (98 feet), 30 must be used as the value for h in the above formula.

(2) The value used for p in the above formula must not be less than 27 dB less than the maximum ERP in any direction.

(e) 931 MHz service contour. For paging stations transmitting on the 931 MHz channels, the service contour is a circle, centered on the transmitting antenna, with a radius determined from Table E-1, **provided however that no application for a single location or a stand alone location will be accepted where the service contour is less than 20 miles (32 km). For purposes of this subsection the terms "single location" and "stand alone location" are defined as a location with a service contour that is not part of a composite service contour associated with a system comprised of multiple co-channel base stations under the common control of a single entity. Additionally, any transmitter the service contour of which comprises part of the composite service contour of a system under common control must have a service contour of not less than 20 miles (32 km).**

(f) 931 MHz interfering contour. For paging stations transmitting on the 931 MHz channels, the interfering contour is a circle, centered on the transmitting antenna, with a radius determined from Table E-2, **provided however that no application for a single location or a stand alone location will be accepted where the interfering contour is less than 50 miles. For purposes of this subsection, the terms "single location" and "stand alone location" are defined as a location with an interfering contour that is not part of a composite interfering contour associated with a system comprised of multiple co-channel base stations under the common control of a single entity. Additionally, any transmitter the interference contour of which comprises part of the composite interference contour of a system under common control must have an interference contour of not less than 50 miles (80 km).**

(g) In-building radiation systems. Licensees may install and operate in-building radiation systems without applying for authorization or notifying the Commission.

Table E-1 - 931 MHz Paging Service Radil

Service Radius km (miles)	Effective Radiated Power (Watts)					
	0-125	126-250	251-500	501-1000	1001-1860	1861-3500
Antenna HAAT meters (feet)						
0-177 (0-581)	32.2 (20)	32.2 (20)	32.2 (20)	32.2 (20)	32.2 (20)	32.2 (20)
178-305 (582-1001)	32.2 (20)	32.2 (20)	32.2 (20)	32.2 (20)	37.0 (23)	41.8 (26)
306-427 (1002-1401)	32.2 (20)	32.2 (20)	37.0 (23)	41.8 (26)	56.3 (35)	56.3 (35)
428-610 (1402-2001)	32.2 (20)	37.0 (23)	41.8 (26)	56.3 (35)	56.3 (35)	56.3 (35)
611-861 (2002-2825)	37.0 (23)	41.8 (26)	41.8 (26)	56.3 (35)	83.7 (52)	83.7 (52)
862-1219 (2826-3999)	41.8 (26)	56.3 (35)	56.3 (35)	83.7 (52)	83.7 (52)	83.7 (52)
1220+ (4000+)	56.3 (35)	56.3 (35)	83.7 (52)	83.7 (52)	83.7 (52)	83.7 (52)

In-building radiation systems operated under this paragraph may provide only public mobile service. The locations of in-building radiation systems must be within the service contour(s) of the licensee's authorized transmitter(s) on the same channel. In-building radiation systems are not protected facilities, and therefore do not have service or interfering contours.

§ 22.539 Additional channel policies.

The rules in this section govern the processing of applications for a paging channel when the applicant has applied or been granted an authorization for other paging channels in the same geographic area. The general policy of the Commission is to assign one paging channel in an area to a carrier per application cycle. That is, a carrier must apply for one paging channel, receive the authorization, construct the station, provide service to the

public, and notify the Commission of commencement of service to the public and obtain a grant to construct the facilities before applying for an additional paging channel in that area. The rules in this section apply only to the channels listed in § 22.531, excluding the nationwide network paging channels.

(a) VHF transmitters in same area. Any transmitter on any VHF channel listed in § 22.531 is considered to be in the same geographic area as another transmitter on any other VHF channel listed in § 22.531 if:

- (1) one transmitter location is within the service area of the other transmitter; or,
- (2) the area within the overlap of the service contours of the two transmitters constitutes 50 percent or more of the service area of either of the transmitters.

Table E-2 - 931 MHz Paging Interfering Radii

Interfering Radius km (miles)	Effective Radiated Power (Watts)					
	0-125	126-250	251-500	501-1000	1001-1860	1861-3500
Antenna HAAT meters (feet)						
0-177 (0-581)	80.5 (50)	80.5 (50)	80.5 (50)	80.5 (50)	80.5 (50)	80.5 (50)
178-305 (582-1001)	80.5 (50)	80.5 (50)	80.5 (50)	80.5 (50)	88.5 (55)	96.6 (60)
306-427 (1002-1401)	80.5 (50)	80.5 (50)	88.5 (55)	96.6 (60)	130.4 (81)	130.4 (81)
428-610 (1402-2001)	80.5 (50)	88.5 (55)	96.6 (60)	130.4 (81)	130.4 (81)	130.4 (81)
611-861 (2002-2825)	88.5 (55)	96.6 (60)	96.6 (60)	130.4 (81)	191.5 (119)	191.5 (119)
862-1219 (2826-3999)	96.6 (60)	130.4 (81)	130.4 (81)	191.5 (119)	191.5 (119)	191.5 (119)
1220+ (4000+)	130.4 (81)	130.4 (81)	191.5 (119)	191.5 (119)	191.5 (119)	191.5 (119)

(b) 931 MHz transmitters in same area. Any transmitter on any 931 MHz channel is considered to be in the same geographic area as another transmitter on any channel listed in § 22.531 if it is located less than 64.4 kilometers (40 miles) from that transmitter. Likewise, any transmitter on any channel listed in § 22.531 is considered to be in the same geographic area as another transmitter on any 931 MHz channel if it is located less than 64.4 kilometers (40 miles) from that transmitter.

(c) Initial channel. The Commission will not assign more than one channel for new paging stations. Paging stations are considered to be new if there are no authorized transmitters on any channel listed in § 22.531 controlled by the applicant in the same geographic area.

(d) Additional channel. Applications for transmitters to be located in the same geographic area as an authorized station controlled by the applicant, but to operate on a different channel, are considered as requesting an additional channel for the authorized station, unless paragraph (e) of this section applies.

(e) Additional transmitters on same channel. Notwithstanding other provisions of this section, applications for transmitters to be located in the same geographic area as an authorized station controlled by the applicant, and to operate on the same paging channel, are not considered to be requests for an additional paging channel.

(f) Amendment of pending application. If the Commission receives and accepts for filing an application for a transmitter to be located in the same geographic area as a transmitter proposed in a pending application previously filed by the applicant, but on a different channel, the subsequent application is considered as a major amendment to change the technical proposal of the prior application, unless paragraph (e) applies. The filing date of any application so amended is the date the Commission received the subsequent application.

(g) Dismissal of premature applications for additional channel. If the Commission receives an application requesting an additional channel for an authorized station prior to receiving notification that the station is providing service to the public on the authorized channel(s) ~~grant of the pending application in the same area~~, the Commission may dismiss that application without prejudice as defective.

§ 22.569 Additional channel policies.

The rules in this section govern the processing of applications for a ~~mobile channel pair of base/mobile channels~~ when the applicant has applied or been granted an authorization for other ~~mobile base/mobile~~ channels in the same geographic area. The general policy of the Commission is to assign no more than two ~~channels base/mobile channel pairs~~ in

an area to a carrier per application cycle. That is, a carrier must apply for no more than two channels, receive the authorization, construct the station, provide service to the public, and notify the Commission of commencement of service to the public ~~channel pairs and obtain a grant to construct the facilities~~ before applying for additional mobile channels ~~base/mobile channel pairs~~ in that area. The rules in this section apply only to the channels listed in § 22.561.

(a) Transmitters in same area. Any transmitter on any channel listed in § 22.561 is considered to be in the same geographic area as another transmitter on any other channel listed in § 22.561 if:

(1) one transmitter location is within the service area of the other transmitter; or,

(2) the area within the overlap of the service contours of the two transmitters constitutes 50 percent or more of the service area of either of the transmitters.

(b) Initial channel. The Commission will not assign more than two channels for new stations. Stations are considered to be new if there are no authorized transmitters on any channel listed in § 22.561 controlled by the applicant in the same geographic area.

(c) Additional channel. Applications for transmitters to be located in the same geographic area as an authorized station controlled by the applicant, but to operate on a different channel, are considered as requests for an additional channel for the authorized station, unless paragraph (d) of this section applies.

(d) Additional transmitters on same channel. Notwithstanding other provisions of this section, applications for transmitters to be located in the same geographic area as an authorized station controlled by the applicant, and to operate on the same channel, are not considered as requests for an additional channel.

(f) Dismissal of application constituting cumulative request for more than two channels. If the Commission receives an application for a transmitter to be located in the same geographic area as a transmitter proposed in a pending application previously filed by the applicant, but on different channels such that, considered together, the applications would constitute a request for more than two channels, the Commission may dismiss the subsequent application without prejudice.

(g) Dismissal of premature applications for additional channel . If the Commission receives an application requesting two additional channels (or one additional channel) for an authorized station prior to receiving notification that the station is providing service to the public on all (or all except one) of the authorized channels ~~prior to grant of the~~

~~pending application in the same area~~, the Commission may dismiss that application without prejudice.

§ 22.575 Use of mobile channel for control transmitter.

Carriers may be authorized to control base transmitters using a control transmitter on the ~~paired~~ mobile channel, subject to the conditions in this section. Control transmitters authorized pursuant to the provisions of this section do not have to meet the requirements of § 22.567(b).

(a) This method of control must not be used in any situation in which transmissions from subscriber-operated transmitters would be able to override the functions of the control transmitter.

(b) The control transmitter must be equipped to use coded signals to shut down and reactivate the base transmitter. Additional coded signals may be used for essential functions at the base transmitter, e.g., controlling aeronautical obstruction marking lights on the antenna tower.

(c) Radio equipment in the premises or vehicles of subscribers must be incapable of reactivating the base transmitter after it has been shut down by the licensee.

(d) The control transmitter location must be within the composite service contour of the station on the paired base channel.

~~GENERAL AVIATION 454/459 MHz~~ AIR-GROUND STATIONS

§ 22.805 Channels for ~~general aviation 454/459 MHz~~ air-ground service.

The following channels are allocated for the provision of radiotelephone service to airborne mobile subscribers ~~in general aviation (non-commercial) aircraft~~. These channels have a bandwidth of 20 kHz and are designated by their center frequencies in MegaHertz.

Signalling channel pair

ground airborne mobile

454.675 459.675

Communication channel pairs

ground	airborne mobile	ground	airborne mobile
454.700	..... 459.700	454.850	..... 459.850
454.725	..... 459.725	454.875	..... 459.875
454.750	..... 459.750	454.900	..... 459.900
454.775	..... 459.775	454.925	..... 459.925
454.800	..... 459.800	454.950	..... 459.950
454.825	..... 459.825	454.975	..... 459.975

(a) Channel 454.675 MHz is assigned to each and every ground station, to be used only for automatically alerting airborne mobile stations of incoming calls.

(b) All airborne mobile channels are assigned for use by each and every airborne mobile station.

§ 22.809 Transmitting power limits.

The transmitting power of ground and airborne mobile transmitters operating on the channels listed in § 22.805 must not exceed the limits in this section.

(a) Ground station transmitters. The ~~When not operating in the idle mode, the~~ effective radiated power of ground stations must not exceed 100 Watts and must not be less than 50 Watts. ~~See Section 22.811.~~

(b) Airborne mobile transmitters. The transmitter power output of airborne mobile transmitters must not exceed 25 Watts and must not be less than 4 Watts.

§ 22.813 Technical assignment criteria.

The rules in this section establish technical assignment criteria for the channels listed in § 22.805. These criteria are intended to provide substantial service volumes over areas that have significant local and regional general aviation activity, while maintaining the continuous nationwide ~~in-route~~ ~~enroute~~ coverage of the original geographical layout.

(a) Distance separation for co-channel ground stations. The Commission may grant an application requesting assignment of a communication channel to a proposed ground transmitter only if the proposed antenna location is at least 800 ~~722~~ kilometers (~~497~~~~451~~ miles) from the antenna location of the nearest co-channel ground transmitter in the United States, its territories and possessions; and 1000 kilometers (621 miles) from the antenna location of the nearest co-channel ground transmitter in Canada.

(b) Dispersion. The Commission may grant an application requesting assignment of a communication channel to a proposed ground transmitter only if there are no more than five different communication channels already assigned to ground transmitters with antenna locations within a 320 kilometer (199 mile) radius of the proposed antenna location.

§ 22.815 Construction period for ~~general aviation~~ 454/459 MHz ground stations.

The construction period (*see* § 22.142) for ~~general aviation~~ 454/459 MHz ground stations is 12 months.

§ 22.901 Cellular service requirements and limitations.

Cellular system licensees must provide cellular mobile radiotelephone service upon request to all cellular subscribers in good standing, including roamers (subscribers to cellular systems other than the one from which they are requesting service), while such subscribers are located within the authorized cellular geographic service area (*see* § 22.911). However, a cellular system licensee may refuse or terminate service, subject to any applicable state or local requirements for timely notification, to any subscriber who operates a cellular telephone in an airborne aircraft in violation of § 22.925 or otherwise fails to cooperate with the licensee in exercising control over mobile stations pursuant to the licensee's responsibility under § 22.927.

(a) Service area information. Licensees must inform prospective subscribers of the area in which reliable service can be expected.

(b) Lack of capacity. If a licensee refuses a request for cellular service because of a lack of system capacity, it must report that fact to the Commission in writing, explaining how it plans to increase capacity.

(c) Dispatch service. Cellular systems must not offer or provide dispatch service. **For purposes of this section, "dispatch service" is defined as:**

Two-way communication, normally of not more than one minute's duration, that is transmitted between dispatcher and one or more land mobile stations, directly through a base station, without passing through the mobile telephone switching facilities.

(d) Alternative technologies and auxiliary services. Licensees of cellular systems may use alternative cellular technologies and/or provide auxiliary common carrier services on the communication channels in their assigned channel block, provided that cellular service is available to subscribers whose mobile equipment conforms to the cellular system compatibility specification (*see* § 22.933).

(1) Notification. Cellular licensees must notify the Commission (FCC Form 489) at least thirty days prior to implementation of alternative technology or auxiliary services. Such notifications must include an exhibit describing the alternative technology to be used and/or auxiliary service to be offered, and a list of any new or modified transmitting facilities. Licensees must perform or obtain an engineering analysis to ensure that interference to the service of other cellular systems will not result from the implementation of auxiliary services or alternative cellular technologies.

(2) Exemptions. Alternative technology and auxiliary service operations are exempt from the channeling requirements of § 22.905, the modulation requirements of § 22.915 and the emission limitations of § 22.917, except for emission limitations that apply to emissions outside the assigned channel block.

§ 22.913 Effective radiated power limits.

The effective radiated power (ERP) of transmitters in the Cellular Radiotelephone Service must not exceed the limits in this section.

(a) Maximum ERP. The effective radiated power (ERP) of base transmitters and cellular repeaters must not exceed 500 Watts. The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

(b) Height-power limit. ~~The Unless coordination is performed and agreements are reached with all neighboring co-channel carriers that are within 75 miles (121 km),~~ the ERP of base transmitters must not exceed the amount that would result in an average distance to the service area boundary of 41.5 kilometers (26 miles). The average distance to the service area boundary is calculated by taking the arithmetic mean of the distances determined using the procedures specified in § 22.911 for the eight cardinal radial directions.